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CARCINOMA OF THE CERVIX

AN ATTEMPTED FOLLOW-UP STUDY OF 500 CASES. III. THE ROAD TO IMPROVEMENT IN RESULTS*

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In two preceding communications[1, 2] based on an attempted follow-up of 500 patients with carcinoma of the cervix treated at Charity Hospital of Louisiana over the five and a half year period ending July 1, 1937, certain important statistical data were summarized[1] and certain therapeutic and diagnostic considerations were discussed from the standpoint of the responsibility of the profession.[2]

The most important statistical fact was that of the 397 patients whom it was possible to follow-up, 358 are known to be dead, including two who survived for five and seven years, respectively, without recurrence, and 39 are known to be alive for periods varying from seven to 12 years after treatment. The most important therapeutic consideration was that during the years of this study the radiotherapeutic facilities of the hospital were utterly inadequate for the patient load, but that the best use was not always made of such facilities as were available. The most important diagnostic consideration was that at least 27 patients who consulted physicians outside of the hospital when their symptoms first developed received egregiously wrong advice, while the hospital staff was not always free from procrastination, lack of suspicion and other diagnostic errors.

The purpose of the third paper in this series is to analyze the end-results in these 500 cases from the standpoint of the patients' responsibility for their own fate, and to consider also how it would be possible to improve the results in this disease by the application of certain educational and prophylactic measures.

THE IDEAL OF EARLY DIAGNOSIS

The ultimate reason why the great majority of the 500 women in this series lost their lives from carcinoma of the cervix is the time at which they appeared for medical assistance. In the 477 cases in which it was possible to determine the approximate duration of the disease as related to symptoms, only 14 patients sought advice within a week of the onset of symptoms, and only 64 within a month. Two hundred seventy-three waited six months or more and 48 of these waited 12 months or more.

A vaginal discharge, with or without spotting, is the most frequent symptom of carcinoma of the cervix, and, judging by this series, is also the least heeded. Irregularities of menstruation, particularly at the time of the menopause, were next in point of frequency, and were also very likely to be disregarded. Many patients had histories of discharges and menstrual irregularities for long periods of time, but weeks or months before they appeared for

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treatment had noted changes in the amount or character of the discharge or bleeding, to which they had usually paid no attention. In many cases the long duration of such symptoms (sometimes for as long as 10 to 15 years) made it impossible that the original discharge or bleeding could have been due to malignant disease. Pain and hemorrhage were the symptoms which brought the patients most promptly to the hospital, and it is perhaps significant that these were the presenting symptoms in 11 of the 39 patients who are known to be still alive.

How rapidly carcinoma of the cervix progresses it is not possible to say. It can be said positively, however, that while the *development of symptoms* brings the patient to the physician, the *onset of the symptoms* by no means coincides with the *onset of the disease*. Several patients in this series, for instance, were first aware of their condition when severe hemorrhages occurred; obviously in such cases the disease had already existed long enough to involve the vascular supply. Other patients were firm in their statements that the first symptom they had experienced was pain; obviously a disease which begins primarily as a histologic alteration does not give rise to pain until it has passed considerably beyond that stage.

The solution of the problem of carcinoma of the cervix is not therapeutic improvement, important as such improvement would be, but rather diagnostic improvement, which does not mean, as early diagnosis is usually interpreted to mean, seeing the patient immediately after the onset of symptoms. A fair number of patients in this series appeared at the hospital within two or three weeks, and sometimes within a few days, after their first symptoms, which usually took the form of hemorrhage, yet some of them had advanced, incurable, stage 4 disease. From the standpoint of symptoms the ideals of early medical consultation and early diagnosis were both achieved, yet their lives were beyond salvage.

Clearly we must go very far beyond urging the patient to consult a physician as soon as symptoms develop if we are to increase the salvage in carcinoma of the cervix. Until that fact is driven home, no improvements in therapy are likely to effect more than insignificant improvements in results. As Crossen[3] pointed out 15 years ago, the idea of constant, continuing attention to the pelvic organs *in the absence of symptoms* must be presented to every woman and kept before every physician. N. F. Miller[4] has the same concept when he writes that the whole attitude of the profession toward pelvic examinations must be changed, and that women must be educated from early childhood concerning their pelvic organs. He based his warning on the lack of improvement, from the standpoint of the stage of the disease, which he himself had observed over a 12-year period in the Gynecologic Tumor Conference at Ann Arbor. In 1931 the proportion of early cases was 4.2 per cent and of stage 4 lesions 54 per cent. In 1942 the proportion of early cases was 5.7 per cent and of stage 4 lesions 71.1 per cent.

A DIFFERENT EDUCATIONAL APPROACH

What all of this amounts to is that there must be a different educational approach to carcinoma of the cervix if the present results are the best that can be achieved by the efforts and money which have been spent on the education of the public over the past two decades. The ultimate responsibility for her own fate may be the individual's, but the profession cannot escape the responsibility of teaching women the correct facts about their genital health.

It is useful to spread the information that discharges and abnormal bleedings are the first symptoms of cancer of the cervix, but far more useful to hammer home the information that the time to detect the disease is before it causes symptoms, which is possible only when routine pelvic examinations are made. The method of approach, moreover, must be adapted to the intellectual and educational level of the women for whom the particular approach is intended. Commonsense is by no means confined to patients in the upper intellectual and financial levels, yet it seems hard to conceive

that women of these strata, however foolish some of them might be, would permit bleeding to occur for weeks and months, 10 and 20 years and longer after the menopause and do nothing about it, as did many negro and some white women in this series.

In the same connection it would be well to direct some educational effort toward spreading the information that menopause means literally the cessation of monthly bleeding, and the further information that discharges and irregular bleeding are no more physiologic and no more to be tolerated without investigation during the climacteric than at any other period of life. As H. E. Miller[5] pointed out in his study of gynecologic deaths at the New Orleans Charity Hospital, this supposed physiologic era of a woman's life seems in many respects to be the most dangerous of her life. In his series, as in this one, not only the patients, but sometimes their physicians, who on occasion included the hospital staff, seemed to regard spotting, bleeding and discharges as a normal part of the menopause.

The educational program for carcinoma of the cervix must include some method of impressing upon the patient with the disease the fact that her life depends upon obedience to her physician's instructions and advice. One patient with hopeless malignacy in the Charity Hospital series had been seen on the gynecologic service two years before and had flatly refused to permit a pelvic examination, though her symptoms pointed clearly to carcinoma of the cervix. One patient whose malignancy was discovered when she entered the hospital at term declined to remain for treatment after delivery. Two patients refused to submit to irradiation for several weeks after the diagnosis had been made. At least 10 began deep-voltage therapy but refused to continue it when they learned its duration.

Twenty-six patients left the hospital against advice, several more than once, before the conclusion of treatment, and some of them were not seen again until their condition was hopeless. Some referred to the gynecologic clinic from other clinics waited weeks and somtimes months before reporting. Although no patient in the series was discharged from the hospital or clinic without a definite appointment for a return visit, many of them did not return until weeks or months, or in some cases a year or more, had elapsed, for two significant reasons, that they felt too well or that they felt too ill to come at the appointed time. The patients who felt too ill to return of course failed to realize where their possible salvation lay, and the patients who felt too well, and who did not return until they again felt ill, equally failed to realize it. The lack of the organization which is the secret of all successful therapy in carcinoma of the cervix is particularly apparent in these cases. It was nobody's responsibility to seek these patients out and bring them back because it was everybody's responsibility.

Both patients and physicians must share the responsibility for this situation. If it is necessary to scare patients to death, as Lord Moynihan once put it, in order to frighten them into life, that must be done. If it is necessary literally to lead them by the hand from clinic to clinic, or from ward to clinic or to X-ray Department, then that must be done. Whatever may be necessary to induce them to submit to diagnosis and treatment would be justified; their lives are at stake. If, after being fully informed as to the stakes, they still choose to throw them away, at least the physician will have done his duty.

But the patient is not likely to be impressed with the seriousness and urgency of her disease until physicians, who are supposed to comprehend its seriousness, begin to comprehend its urgency. These records are adequate proof that its urgency is still not realized. These women all had a deadly disease, and in the majority of cases their histories clearly pointed to the diagnosis. Yet literally dozens of examinations began with the statement "This patient is not seriously ill." That concept, as already intimated, must be radically changed. There is a story, which may or may not be apocryphal, that a certain physician in Philadelphia, the moment he

saw in his office a woman with possible carcinoma of the breast, cancelled his remaining appointments and took her instantly to the hospital in his own car. Something of the same kind of urgency must be put into the minds and hearts of medical students and internes and residents concerning carcinoma of the cervix, and it must be put there by those who are now teaching and practicing gynecology, the practice probably being more important than the precept.

The attitude toward re-examinations on the part of the 39 survivors is also worth recording. Only four still report regularly to the clinic at six-month intervals. All the others were asked if they would be willing to return for examination at this time. A number replied that they would willingly return if arrangements (that is, financial provision) could be made, but that they could not come otherwise. Several declined, on the ground that they regarded themselves as well and not in need of treatment; one of this group wrote, "I have had no trouble with my womb lately." A white patient was willing to return if the chief of the gynecologic service would attend her personally, but under no other circumstances. The daughter of one patient answered the letter, with the request that no further communications be sent because her mother had been so upset by the inquiry. Another patient declined to return for examination, adding, "I am well, and I am alive, thank God. But if I was sick, I would certainly be hurt by such questions as you sent me."

No attempt is made to report the 39 survivors in this series as cured patients. They are merely reported as salvage. Only four have been examined recently. That the majority, in view of the lapsed time and their reported activities, are free from disease seems likely. But their attitude toward questions concerning their health, and their lack of cooperation in respect to, and their complete lack of realization of the necessity for continued examination is further proof of the need for a new educational approach in carcinoma of the cervix, with emphasis, among other things, on the importance of continued observation all of their lives if they hope to remain free from disease after they have been treated.

In this connection it might be added that information concerning the death of one of these patients was secured from her daughter, who took the opportunity to express her anxiety concerning her own condition. She had had a supravaginal hysterectomy five years ago, and for the last 18 months had had a vaginal discharge. In view of her mother's disease she feared carcinoma of the cervix. That she might have visited the clinic on her own volition did not seem to have crossed her mind. She was instructed to enter the hospital, and clinically her pelvic examination suggested carcinoma of the cervix. The biopsy, unfortunately, was not properly taken, and a second specimen was requested. The patient was advised to return for a second examination, but at the end of four months she has still failed to keep the appointment.

The records from Charity Hospital show that only one patient sought medical attention because she feared she had cancer. She is among the survivors, but her attitude is somewhat less impressive than it might be because in the intervening seven years since she was first seen she has also thought that she had at least a dozen other diseases; as a matter of fact, the last word of her was a request for information from another state hospital, in which she was being examined for possible gallbladder disease.

The patients in this series were not specifically questioned, it would seem, as to what they knew of cancer and no statements can therefore be made on this point. A study from the New Haven Hospital by Harms and his associates,[5] however, might be cited as indicating the results of the present educational approach. Almost none of the 158 patients in their series feared that they had cancer. Only 13 per cent thought of cancer as a possible cause of their symptoms. Only 6 per cent had ever read anything about the disease, and all but two of these had secured their information from the lay press. In the light of these facts, all the

educational efforts which have been lavished on the public for so many years seem rather futile. One can only applaud recent decision to coordinate all cancer research and exchange knowledge of progress, and one must rejoice, of course, over the recent large grants for investigation of the disease. But until the cause of cancer is discovered, the solution of its diagnostic and therapeutic problems lies in the hands of the clinicians, whose first weapon would seem to be a new and different educational approach to their patients.

THE PROPHYLAXIS OF CARCINOMA OF THE CERVIX

The salvage in malignant disease of the cervix will be greatly increased when all physicians, and particularly all general practitioners, begin to include questioning as to the menstrual habit and an investigation of the pelvic organs as part of the investigation of whatever non-pelvic disease brings the patient for advice. The same holds for ophthalmologists and otolaryngologists and dermatologists and other specialists who see patients for non-gynecologic causes. The gynecologist, as a matter of fact, under the present system of practice seldom sees the patient before she has symptomatic carcinoma of the cervix. Routine pelvic examination, with gynecologic investigation of every questionable or suspicious case, is not an impracticable ideal for all women admitted to public hospitals for whatever cause, and would undoubtedly result in an enormous salvage in carcinoma of the cervix. The lives lost in this series because that plan was not observed have been commented on in another paper of this series.[2]

The last report of Macfarlane and her group[6] in Philadelphia is clearcut proof of the value of routine pelvic examination in the absence of pelvic symptoms. Since 1939 this group of physicians at the Women's Medical College have been performing pelvic examinations on volunteers who promised to report twice yearly over a period of five years. All, of course, did not keep their pledges, but up to 1944, 9,111 visits had been paid by volunteers who appeared regularly and by 545 others who appeared irregularly. Eighteen instances of carcinoma of ten different organs were thus discovered, including four early cases of carcinoma of the cervix, one of which was discovered on the *eleventh* examination. All four of these women are alive and well today. On the other hand, only two of the 500 Charity Hospital cases were discovered in the absence of symptoms, one in the course of an investigation for the cause of headaches, and another in an investigation of asthma. The latter patient is included among the survivors; the former's disease was far advanced when it was accidentally discovered.

One of the problems associated with routine pelvic examination is the decision as to how often it should be carried out. The difficulty is not so much to induce the patient to submit to the first examination as to educate her to come for repeated examinations. In general, it may be said that a woman who is examined yearly from the age of 25 to 35 years, and twice yearly thereafter, has taken adequate insurance against the development of cervical cancer.

An interesting project along the lines of prophylaxis has recently been reported by the Medical Society of Milwaukee County,[7] which has opened a cancer detection center in the student health center annex to Marquette University School of Medicine. The project met with such success that permanent offices, with a full time secretary, are now being considered. During the first three months of its operation, 798 persons were examined, 41 of whom had cancer, which in 18 instances had not previously been diagnosed. Cancer was a possible diagnosis in 74 other patients. The operation of such centers by other medical societies might help to solve the problem of routine pelvic examinations.

Prophylactic Cervical Repair: The exact effect of parity upon the development of cervical malignancy is still not clear, but of the very high incidence of the disease in parous as compared to non-parous women there is no doubt. In many instances in this series it was impossible to determine whether or not lacerations of the cervix

preceded the malignancy because the structural relationships were destroyed by the extent of the malignant process. It is fair to assume, however, that the cervix of a parous woman never returns to its original state of integrity because full restitution of cervical tissue does not occur after even an easy labor; some evidence of the process, physiologic though it may be, always remains. It is also reasonable to assume, though positive statements to this effect were made in only a few cases, that many of these women were delivered by midwives and had entirely inadequate care at delivery. This is a particularly reasonable assumption concerning the 312 women from the country, 196 of whom were negroes. The great majority of these women lived in small towns, among which, in Louisiana, the distribution of physicians is particularly poor and the proportion of deliveries by midwives, who are practically always untrained, is extremely high.

It is a significant fact that not a single patient in this series had had a cervical repair or any other treatment of the cervix except for two who were cauterized when supravaginal hysterectomy was done. Routine examination and treatment of the cervix after delivery would seem a possible method of reducing the incidence of carcinoma of the cervix, which has a tendency to develop in areas of erosion such as are often observed after childbirth. The disease developed in areas of this kind, as a matter of fact, in three of the four instances of early malignancy identified by Macfarlane and her associates[6] in their program of routine pelvic examination.

THE SOCIAL ASPECTS OF CARCINOMA OF THE CERVIX

For various reasons the period of observation in these 500 cases was short, being over 12 months in only 109 cases. Many of the patients had died within this period, and many others were dying, while a large number had drifted from observation. Two reasons for the brevity of observation in the surviving patients present themselves: the large proportion of patients from out of the city, and the economic factor in patients of this level.

One of the great difficulties in this series was the management of patients from out of the city who were discharged from the hospital to continue deep-voltage therapy because they were physically able to be ambulatory. Hospital facilities, particularly before the new Charity Hospital was built, were not such as to permit the continued hospitalization of women who did not need hospital care. Yet indigent patients from the country frequently found the necessity of remaining in the city, at their own expense, for two or three weeks after discharge a problem so difficult of solution that many of them solved it by going back to the country and not returning at all, or not returning until their state was hopeless. The operation of a convalescent home in connection with the hospital has improved, but not wholly solved, this problem at the present time. This practical social difficulty apparently was responsible for a surprisingly large number of deaths in this series.

The economic factor in carcinoma of the cervix is apparent in another set of figures from this report. As already noted, 312 patients were from the country and 188 from the city or from immediately adjacent parishes. While it is difficult to put such facts in statistical form, it seems significant that of 95 patients (exclusive of patients who died on their first admission to the hospital) who were observed only once, 71 were from the country. Clearly carcinoma of the cervix cannot be managed properly in one period of hospitalization and observation. To one familiar with the circumstances of these patients it is a reasonable assumption that the necessity for repeated visits to the hospital was an insuperable financial difficulty, which was often increased among women who were mothers of young children, who lived in isolated parts of the country, who were unable to arrange for their care in their own absence, and who simply failed to return for observation and treatment. A number of patients followed up by letter or through the Social Service Department frankly stated

that they had not returned for these reasons.

THE PROBLEM OF THE HOPELESS PATIENT

The most tragic group of patients in this series consists of the 24 white and 50 negro women who were sent out from the hospital, immediately after they were first seen, or later, when therapy had proved futile, to die at home. Some of those traced had died promptly. Others had lived for months before they were "relieved by death." To have kept them longer in the hospital could not have saved them and would have deprived of the chance of cure other patients whose salvage was still possible. But when one recalls the type of home to which indigent patients, particularly negro patients, must frequently return, and the dreadful death that cervical malignancy so often entails, it is hard to contemplate with equanimity the fate of these unfortunate women.

Philanthropic and public health funds could not be spent to better advantage than in the provision of nursing homes for such patients to ease their last days. Their fate at the present time is unfortunately no better than it was in the period covered by this study. The hospital cannot hold them indefinitely, for its facilities are still limited and must be utilized for those who can be helped, and a convalescent home is designed for those who are going to live and obviously does not solve the problem of women who "carry the candle of death in their hands."

SUMMARY

This is the last of a series of three papers on an attempted follow-up study of 500 patients with carcinoma of the cervix treated at the New Orleans Charity Hospital over an approximately five and one-half year period ending July 1, 1937. Thirty-nine of these patients are known to be still alive and 358 are known to be dead.

The ultimate reason why most of the women in this series lost their lives from carcinoma of the cervix is the time at which they appeared for treatment. Therefore early medical consultation is the first step toward improvement in results. The onset of symptoms, however, which brings the patient to the physician, does not coincide with the onset of the disease, and the solution of this phase of the problem is an educational approach based on continuing attention to the pelvic organs in the absence of symptoms.

Other phases of this new educational approach include the dissemination of information concerning (1) the fact that menopause means literally the cessation of menstruation and (2) the fact that the salvation of every patient who has, or is suspected to have, this disease depends upon strict obedience to the physician's advice.

It is again pointed out that the physician is responsible for the education of his patients; that he must himself comprehend the urgency of diagnosis and treatment in this disease; and that *all* physicians, and not merely gynecologists, must share this responsibility.

Routine pelvic examination at regular intervals in the adult years represents the only method of translating these objectives into practice. Attention to the cervix after childbirth would also be helpful.

The economic and social factors implicit in carcinoma of the cervix are discussed, and attention is directed to the tragic plight of women who are discharged from the hospital because treatment is useless and the facilities of the institution must be saved for those who can be helped.

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RUPTURE OF THE ILEUM IN UREMIA

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Rupture of the small gut in uremia is rare. A survey of 175 autopsied cases of patients dying of uremia at Charity Hospital in New Orleans between 1923 and 1943, revealed not one case in which the small gut showed perforation. Although reports on gastrointestinal pathology as observed in uremia are not entirely lacking (witness Jaffe-Laing's thorough study of 136 autopsied uremic deaths in 1934), however, none of the reports mention rupture of the small intestine. Only the Europeans gave any report of actual perforation: Mackey, who presented one case in 1909, and Guth, who presented two cases in 1914.

The purpose of this paper is to present two cases, one in which actual perforation occurred, and another in which there was ulceration to the serosa, but not through it. In addition, a review of the intestinal pathology found in the autopsied cases at Charity Hospital as seen in the light of these two clinical cases and the literature seems in order.

CASE No. 1

At first examination, October 30, 1941, L. M., a white female, aged 21, was apparently poorly nourished and showed loss of weight. Her skin had a yellowish cast with marked brown blotches. She complained that the slightest exertion caused dyspnea, palpitation, and numbness of the hands. She had frequent fainting spells, as often as three a day. Her vision had been becoming progressively worse for the last nine years. In spite of the loss of weight her appettite was excellent. However, she was unable to eat fatty foods.

At the age of six the patient had scarlet fever, followed by nephritis. She had a tonsillectomy. There was no familial history of nephritis. Until recently she said she had enjoyed good health.

Physical findings were a heart definitely enlarged; systolic roughening of the aortic valve with a prolonged diastolic sound. Heart tones in general sounded like the beat of a tom-tom. There was marked leukorrhea.

February 8, 1942, the patient was taken with pain in the lower abdomen, accompanied by nausea. She developed rigidity and tenderness over the lower right quadrant. Her temperature at the time was 100°. She was admitted to the hospital and diagnosed as acute appendicitis with possible peritonitis. White blood cell count was 31,000 with a 97 per cent neutrophil count. She was prepared for operation.

Upon opening the abdomen under local anesthesia of 2 per cent novocaine she was found to have profuse peritonitis. The intestines were matted together. There were approximately three quarts of yellowish fluid in the abdomen. Upon delivering the cecum, a normal appendix was found. Upon exploring the ileum, there were many points of perforation and areas of submucosal hemorrhage and ulceration. Approximately sixteen inches of terminal ileum were resected. Sulfathiazole was placed in the abdomen, and the abdomen was closed incorporating a drain to the peritoneum. The patient was given supportive measures, but in spite of these her condition became grave and she died on February 10, 1942.

A synopsis of the pertinent laboratory findings are given here:

On November 3, 1941, PSP 17.5; NPN 35 mg. per 100 c. c. blood; urine heavy with albumin and casts. January 28, 1942, NPN 76.4 mg.; plasma 5.11 mg.; creatinine 4.8. January 31, 1942, NPN 114 mg.; creatinine 5. February 2, 1942, protein plasma 6.16. February 10, 1942, NPN 100 mg.; creatinine 30 mg.

During the interval between October, 1941, when I first examined this patient and February, 1942, when she became acutely ill, she entered the Charity Hospital in New Orleans (January 25, 1942) and was treated for malignant nephrosclerosis.

Autopsy findings: Peritoneal cavity contained 1000 c. c. of amber-colored fluid with fibrin. Loops of ileum were adherent with no evidence of obstruction. A recent end to end anastomosis was seen in the lower ileum. Each pleural cavity contained 150 c. c. of straw-colored fluid.

The pericardial cavity contained 200 c. c. of straw-colored fluid. The pericardium was roughened, and showed a small amount of yellow granular exudate.

Lungs: The upper lobes showed extensive areas of pneumonitis.

Gastrointestinal tract: The stomach and duodenum demonstrated no evidence of pathology. The jejunum presented areas of hemorrhage and ulceration. The ileum, from the cecum extending upward for about two feet, had numerous small areas of ulceration on the antemesenteric border of the bowel. These ulcers varied from one-half centimeter to three centimeters in diameter. There is no evidence of ulceration except at the antemesenteric border. Many of the ulcers perforated the bowel. Peyer's patches showed no involvement.

Microscopic findings: Congestion and dilatation of the vessels in the mucosa and submucosa with marked sclerosis of the deeper vessels. The vessels in the mucosa showed leukocytic infiltration into

the perivascular space with thrombosis. The kidneys showed cloudy swelling of the tubules, degeneration, atrophy, and many of the tubules were cystic. Glomeruli were fibrosed and obliterated. The blood vessels in general showed evidence of sclerosis with thickening of the medial coat.

CASE No. 2

Since 1936, this patient, M. S., white female, aged 21 years, had been feeling badly, losing weight, and having frequent headaches. She had been in and out of several hospitals. She had been growing progressively worse and found it necessary to sleep on more than one pillow.

Childhood illnesses included measles; mumps; pertussis; diphtheria at the age of three, necessitating tracheotomy; appendectomy at age ten; tonsilectomy with severe hemorrhage at age five. No familial history of nephritis.

Physical findings: Blood pressure 205/150. The mucosal membrane was pale. The heart was markedly enlarged; mitral first sound was associated with a blowing murmur; aortic first sound was prolonged. Changing of position accelerated the rate.

June 15, 1942 the patient was taken with a severe headache, blood pressure was 240/200. The headache was controlled only by morphia. She became progressively worse. The blood pressure could not be brought down and the vision became poor. She had nausea and vomiting. After being admitted to Mercy Hospital (November 11, 1942), she began having severe pains in the abdomen, rigidity, marked tenderness, distention, rising temperature. It appeared that there was peritonitis superimposed on uremia. The patient died December 13, 1942.

Autopsy findings: Peritoneal cavity containing 1800 c. c. of straw-colored fluid, exudate over coils of small intestine. Pericardial cavity contained a large amount of hemorrhagic fibrinous exudate. The parietal and visceral layers were rough and red. Pleural cavity: The left cavity contained 200 c. c. of straw-colored fluid; the right cavity contained about 50 c. c. The heart showed left ventricular hypertrophy. The lungs showed numerous small hemorrhagic areas. The gastrointestinal tract contained hemorrhagic semisolid substance throughout. The mucosa of the ileum was edematous, exhibiting hemorrhagic areas in its lower half. The last two feet of the ileum contained numerous small ulcers, many of which penetrated to the serosa, which in that area showed evidence of irritation by a thick purulent exudate. The kidneys were small and granular, both weighing 85 grams.

Microscopic findings revealed marked congestion of the vessels of the mucosa and submucosa, with leukocytic infiltration of the perivascular spaces, sclerosis of the deeper vessels, many of which were obliterated. Kidney tubules showed cloudy swelling, degeneration, atrophy, and cystic changes. The glomeruli were fibrosed and obliterated. The blood vessels in general showed marked sclerosis.

COMMENT

Both of these patients were young, white females of about 20 years, who in early life had a dangerous childhood disease: in one case, diphtheria, in the other, scarlet fever. Both were suddenly stricken with progressive uremia, followed by glomerular nephritis. Both cases presented unusual findings in that the terminal ileum showed evidence of ulceration and perforation without involvement of the gastrointestinal tract above or below this area. Microscopic findings elsewhere along the tract were normal. Both cases presented marked generalized sclerosis of the vessels.

These autopsy findings are similar to those pointed out by Pineau, and more recently elaborated upon by Jaffe-Laing. One is forced to ask why such lesions did not occur in the excretory portions of the intestinal tract. If the old theory of Treitz is to be upheld, one should assume that in every case of uremia, there should be some pathologic findings in the gastrointestinal tract, particularly in the stomach, and the duodenum where a great number of secretory glands are located. One is forced to ask why other parts of the intestinal tract were not involved.

It appears that the vascular system may be the point from which ulceration proceeds, and that not only the vessels of the kidney are involved in certain childhood diseases, but the whole vascular tree shows evidence of sclerosis. Gastrointestinal pathology is not secondary to the uremia, but a part of the modus operandi. These two cases verify this assumption in that there was evidence of sclerosis in all of the vessels. This explanation would also account for the random intestinal pathology.

Of 175 cases of patients dying of uremia and autopsied at Charity Hospital in New Orleans during the past 20 years, 160 showed gross evidence of gastrointestinal disturbances. In 75 cases actual hemorrhage was found. Of these the location was stated in 56 cases, distributed as follows:

Stomach 12, duodenum nine, jejunum four, ileum four, colon 26, rectum one.

In a study of these cases, the point most frequently involved was the junction of the ascending and transverse colon, and at this site the only case of perforation with peritonitis was found.

Actual ulceration was found in 13 cases, distributed as follows: Stomach one, duodenum 0, jejunum three, ileum one, colon seven, rectum one.

In one case of this group there was ulceration in the entire length of the tract, from the stomach to the descending colon. In another, only the ileum and the jejunum were involved. The rectum alone was involved in one case.

DISCUSSION

Pathologic changes of the intestinal tract in uremia are said to occur in 23 per cent of the case autopsied by Fischer. Jaffe-Laing found slight to marked pathologic changes in all of the 136 cases autopsied. Of his entire series, 37 (27.19 per cent) presented edema of the submucosa of the large gut; 72 (52.9 per cent) showed hemorrhage in the mucosa; 27 (19.8 per cent) showed ulcerative changes, with the majority of such changes occurring in the colon. The duodenum was not involved. It was noted in this group that glomerular nephritis had the largest percentage of ulceration. Microscopic findings demonstrated an inflammatory process occurring in the nerve endings, due to a diminution in blood supply. This resulted from a leukocytic perivascular infiltration and thickening of the submucosa, with an increase in the connective tissue fibers.

It is interesting to note that when these pathologic changes were first pointed out by Treitz in 1859, he attempted to explain the etiology of the ulceration. He stated that the ammonium carbonate, the split product of urea, acted as an irritant. His statement is substantiated by the fact that the drug, ammonium carbonate, when administered in large doses, causes intestinal irritation and ulceration. Furthermore, the general glandular system attempts to rid the blood stream of nitrogenous bodies in the products of the glands.

However, Treitz's theory met a great deal of criticism, for it did not satisfactorily explain several factors: for example, those pointed out by Pineau in 1889, which are: (1) There is a definite pattern of pathology in the perivascular spaces as well as in the vessels; (2) there is irritation of the nerve endings; (3) there is usually sclerosis of the vessels, although this is not a constant finding. These findings of Pineau found support in Jaffe-Laing's report. Likewise, the two clinical cases herein presented as well as the 175 cases from Charity Hospital add their evidence on the side of Pineau and Jaffe-Laing and tend to disprove Treitz's theory.

SUMMARY

The two cases herein reported showed perforation of the small gut as an aspect of uremia, a condition which may be regarded as rare after a survey of the literature and of the records of a large institution over a period of 20 years. It has been shown that the entire vascular system is involved in the disease, and that gastrointestinal pathology is a fundamental phase of uremia.

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HERNIATION OF THE TEMPORAL LOBE INTO THE CEREBELLAR FOSSA

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and

JULIAN A. RICKLES, M. D.††

NEW ORLEANS

It might be of interest to others besides neurologists and neurosurgeons to know

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that internal hernias of the brain occasionally occur. The case to be reported illustrates herniation of a portion of the temporal lobe through the incisura of the tentorium into the cerebellar fossa of the skull. The cause of the hernia was a tumor. However, before this case is presented, it might be well to mention some of the other types of brain hernias.

It is now generally known that portions of the cerebellar hemispheres (tonsils of the cerebellum) usually herniate through the foramen magnum when the cerebellar fossa becomes crowded by the presence of a tumor (fig. 1). Such tumors not only take up an ever enlarging space but they also compress the aqueduct of Sylvius or the fourth ventricle to produce internal hydrocephalus and high intracranial pressure. In such instances the tonsils of the cerebellum, which lie near the foramen magnum, herniate through that foramen into the spinal canal, at times reaching the level of the second cervical vertebra. Spinal puncture is a dangerous procedure if the patient has herniation of the cerebellar tonsils into the spinal canal because lowering of intraspinal pressure by withdrawal of fluid permits the tonsils to become a little more tightly impacted about the medulla. If this additional medullary compression is sufficient to embarrass the blood supply, death may take place within minutes or hours. Because of this possibility, it is almost universally agreed that both spinal puncture and spinal air injection for encephalography are contraindicated in patients who have signs and symptoms of a tumor or abscess of the cerebellum. A few surgeons believe that spinal puncture and spinal air injection are contraindicated in all cases of probable brain tumor.

The commonest type of internal brain hernia involves the cerebral hemisphere.

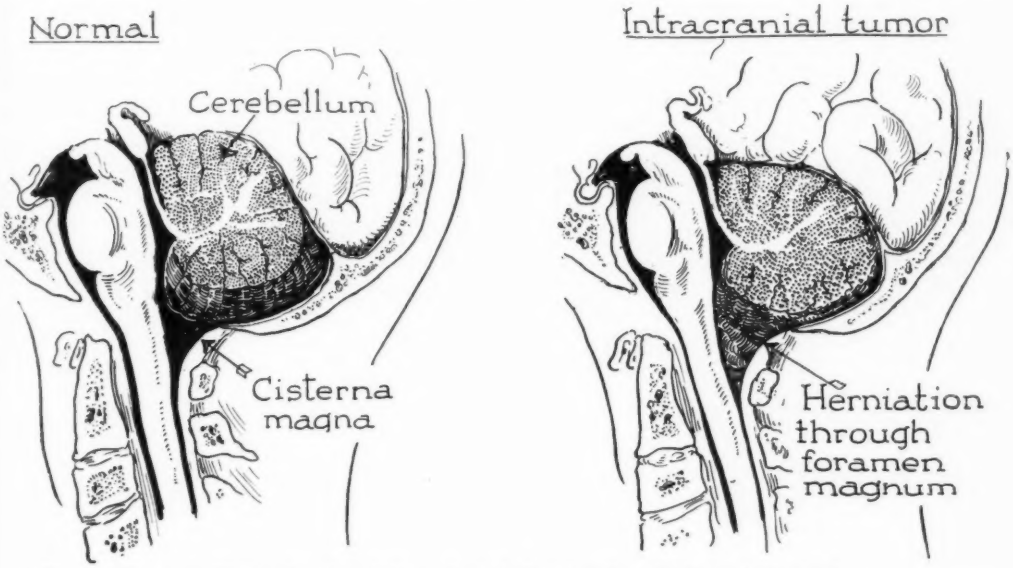

Fig. 1: Diagram illustrating herniation of cerebellar tonsils into the spinal canal.

Partial herniation of one cerebral hemisphere under the falx (the dural septum which partially divides the cerebral cavity into right and left sides) occurs whenever there is a large space-taking lesion in one hemisphere.

A third common type of intracranial hernia, the one with which this communication is concerned, occurs when a portion of one temporal lobe is forced through the incisura into the posterior fossa of the skull. It will be recalled that the tentorium, a septum of dura, almost completely separates the cerebral fossa from the cerebellar

fossa. In this septum is an opening called the incisura or notch which measures about 5 x 2.5 cm. in its anteroposterior and transverse dimensions. This opening accommodates the midbrain (peduncles and other structures). If a tumor of the cerebral hemisphere, especially the temporal lobe, or a chronic subdural hematoma obtains large dimensions, there will be a tendency for the crowded hemisphere to migrate in two directions: across the midline and down through the incisura in the tentorium. The portion of the cerebral hemisphere involved is the inferior, medial part of the temporal lobe (hippocampal gyrus). When this portion of the temporal lobe herniates into the posterior fossa, the midbrain is pushed to one side and becomes compressed between the hernia and the free edge of the tentorium (fig. 2). Such compression of the

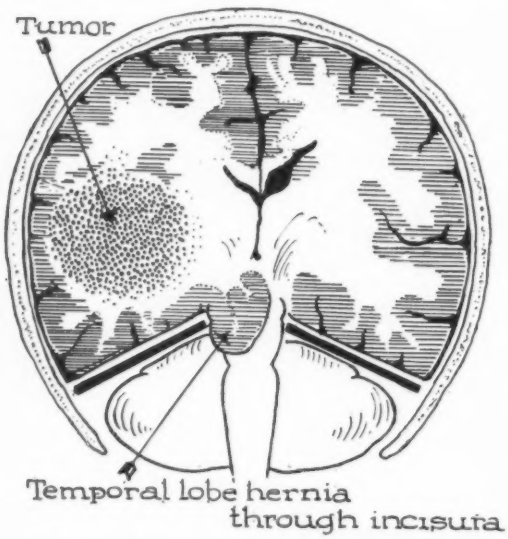

Fig. 2: Diagram showing herniation of a part of the temporal lobe through the incisura into the cerebellar fossa of the skull.

midbrain may lead to "paradoxical" neurologic manifestations, such as hemiparesis or dilated pupil on the same side as the lesion, especially in the case of subdural hematoma or middle meningeal hemorrhage. As pointed out by Scheinker, herniation of the temporal lobe is eventually followed by herniation through the incisura of the rostral portion of the midbrain. This leads to strangulation of the venous system draining the midbrain with resulting perivenous hemorrhages in the brain stem. This is apparently the immediate cause of death in many supratentorial tumors.

CASE REPORT

J. H., a 44-year-old white man, was admitted to Charity Hospital in New Orleans, March 11, 1944, in a semicomatose state. The history was obtained from his wife.

The first abnormality was noticed in August, 1943, when the patient would suddenly turn to his wife and ask, "Did you smell that?" or "What is that terrible odor?" The patient could not understand why others around him could not detect these unpleasant odors. These uncinate fits would last 45 seconds, during which time the patient would become pale and would start chewing movements. During the following months his general behavior changed and he appeared peculiar to his wife. He had a generalized convulsion in November, 1943; many others occurred despite therapy for epilepsy given by his physician. He was admitted to a private hospital February 2, 1944, in a state of complete confusion and was unable to give any information about himself. At that time he was too weak to stand, would wet the bed and made almost constant restless movements of the right arm and leg.

He was seen in consultation by one of us and a presumptive diagnosis of tumor of one temporal lobe was made. Transfer of the patient to his home and then to Charity Hospital required five weeks because of poor cooperation by relatives.

On examination March 11, 1944, the patient was found to be malnourished and irrational. There was slight exophthalmos; the pupils reacted sluggishly to light; the optic disks were normal; there was definite facial weakness on the left; all tendon reflexes were symmetrically hyperactive; the left abdominal reflexes were absent; and the left plantar reflex was pathologic.

Laboratory investigations revealed the following findings. The Kline and Kolmer reactions were negative. Examination of the spinal fluid showed cells 13; Pandy's reaction 1 plus; Kline reaction strongly positive; Kolmer test unsatisfactory; gold curve 0012320000.

Roentgenograms of the skull revealed no evidence of intracranial pathologic lesions. An encephalogram (spinal air injection) made on March 16, 1944, showed a marked shift of the third and lateral ventricles to the right. A diagnosis of probable glioblastoma of the left temporal lobe was made. The relatives were opposed to craniotomy and no good reason for insisting on it could be found.

On March 17, 1944, the patient became more deeply comatose and exhibited increased twitching

of the right extremities. At two o'clock in the afternoon of March 18, 1944, the patient suddenly stopped breathing although the pulse was strong. Artificial respiration was immediately administered by the intern and 2 c. c. of metrazol injected intravenously. A spinal puncture was done at 2:40 p. m., and 25 c. c. of xanthochromic fluid under increased pressure was removed. The pulse had stopped just before the puncture was done but started within thirty seconds of removal of the fluid. The patient expired at 3:15 p. m.

The histologic diagnosis following necropsy was glioblastoma multiforme of the cerebral hemisphere. There was marked herniation of the inferior medial portion of the left temporal lobe through the incisura (fig. 3).

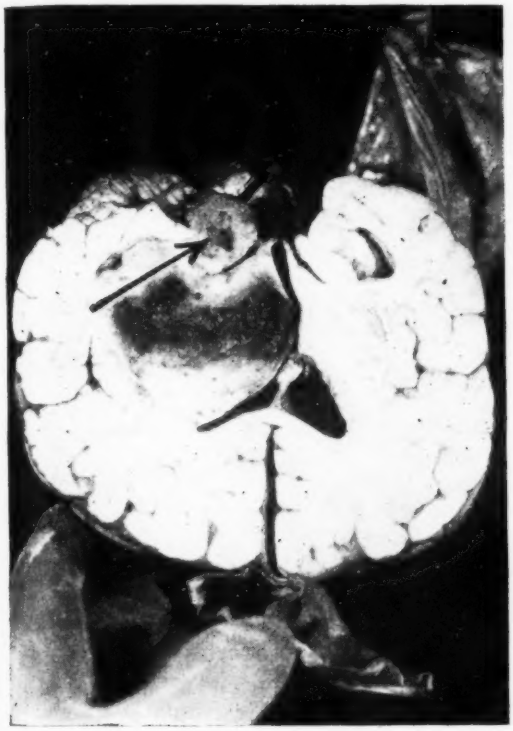

Fig. 3: A coronal section through the incisural hernia as well as through the tumor.

B. Arrow indicates the incisural hernia. Note the distortion of the midbrain.

DISCUSSION

This is the best example of incisural hernia that we have encountered. It is unlikely that larger hernias occur. In spite of prominence of this hernia, compression of the midbrain did not result in complete hemiplegia nor inequality of the pupils. However, there were a few signs pointing to compression of the contralateral peduncle. The spinal puncture and spinal air injection, both obviously risky procedures in this case, may have hastened death. The pneumo-encephalogram was made to determine whether or not the patient was dying of a far advanced and inoperable glioma of the temporal lobe.

SUMMARY

Several varieties of internal brain hernias are briefly described with the thought that the subject might be of some general interest. A case illustrating herniation of part of a temporal lobe into the cerebellar fossa is reported.

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OSTEOID SARCOMA OF THE BREAST*

A CASE REPORT

JOHN S. COURET, M. D.†

NEW ORLEANS

This case is of interest for several reasons: First, it is one of an unusual breast neoplasm; second, it presented another and unrelated type of new-growth in the same breast; and third, it marked the first time in my experience that a patient ever consulted the pathologist preoperatively. This she did, I am convinced, because she wanted to see what manner of person was going to examine the tissue and determine whether or not she would lose her breast; but it did afford me the opportunity to get a first-hand history and examine the lesion, and for this I was deeply grateful.

CASE REPORT

A white female, aged 55 years, was admitted to Hotel Dieu on February 12, 1945, complaining of a lump in the right breast. About eight months before she had struck her breast a slight blow, to which she paid little notice, but a few days later she discovered, at the site of the trauma, a lump which was slightly painful and tender. Motion of the arm, particularly extention, caused some slight pain described as "sticking" in character. These symptoms persisted until the time of admission. The tumor increased very little in size for six months, but then began to grow rapidly, doubling in size during the two months previous to hospitalization.

Examination revealed a well developed and well nourished white female, not acutely ill, but somewhat nervous. Except for a tumor in the right breast, no other pertinent physical findings were demonstrable. This tumor, located in the upper mid-portion of the gland, was rounded, firm, slightly tender, and about the size of a "moderately large orange." It was not fixed to the underlying tissue, nor to the overlying skin, and was quite freely movable. No enlarged axillary, supra- or infraclavicular lymph nodes were palpable, nor were any masses felt in the opposite breast.

The laboratory findings were non-contributory, but an x-ray revealed a well circumscribed and relatively opaque globular mass deep in the breast substance, showing no evidence of calcification.

Under general anesthesia a radial incision was made over the mass, which was then widely excised. Frozen sections of it were made, stained and immediately examined. It was reported as being malignant; but, with this type of preparation, could not be definitely classified. A radical mammectomy was performed, and again no enlarged lymph nodes were encountered. The postoperative course was uneventful and she was discharged on February 24, 1945.

A course of deep x-ray therapy was outlined for her, but she received only about one-third of the prescribed dose; for at this time she became quite uncooperative, stopped coming for treatment, refused to have diagnostic roentgen studies made of her chest and long bones, and was lost track of until February 27, 1946, when she reported by telephone that she was symptom free.

PATHOLOGIC FINDINGS

There were two separate specimens. The first (fig. 1) measured 6 cm. in diameter and was composed of a well circumscribed but unencapsulated globular tumor, slightly lobulated and fairly firm in consistency, measuring 4 cm. in diameter, and surrounded by fat and breast tissue. On section, the cut surface, pinkish to yellowish ivory in color, bulged somewhat, was divided into indefinite lobules by thin fibrous septa, and presented irregular areas of either yellowish gray or hemorrhagic softening.

Fig. 1. Osteoid sarcoma of breast, showing the cut surface.

The other specimen consisted of a breast with the tissue of the axilla attached. A radial incision through the skin of the upper mid-portion was present through which the first specimen had been excised. The organ was sectioned serially in slices about

*Presented before the Orleans Parish Medical Society, New Orleans, La., December 10, 1945.

†From the Department of Pathology, Hotel Dieu, New Orleans, La.

1 cm. thick and quite fortuitously the knife passed through an irregularly and poorly outlined firm mass of tissue, 4 mm. in diameter, with a depressed cut surface which was gray in color and flecked with yellow. This tumor was located in the mid-portion of the outer hemisphere. Elsewhere the fibrous elements of the breast were somewhat increased in amount. No axillary lymph nodes were found.

Microscopically, the larger tumor was composed of cells which showed the most remarkable pleomorphism with all the variations grading insensibly into each other. At one extreme were moderate sized spindle cells, fairly uniform in appearance with a considerable amount of intercellular collagen fibers arranged in intertwining fasciculi. The cytoplasm of these cells was fibrillar, and the nuclei relatively large, with the chromatin in the form of coarse granules. Scattered among these cells were also found, in many places, larger cells of the same type. In still other areas these larger cells predominated, varied considerably in size, were less fusiform, more polymorphous and irregularly arranged. Their cytoplasm was granular. There were much fewer intercellular fibers between these cells but in many places there were irregularly outlined islands of oxyphilic amorphous intercellular substance with small cells enclosed in spaces within them. These islands were identified as osteoid tissue (fig. 2). Among the larger cells there were also numerous giant cells, some containing many vesicular nuclei with a tendency to be peripherally arranged, others having one to three larger nuclei more centrally located. Numerous mitotic figures, most of them of abnormal and bizarre form, were found throughout the tumor. Several areas of coagulation necrosis and of old and recent hemorrhage were present. The blood vessels were rather scarce and their walls composed of either a single layer of endothelium or of the tumor cells themselves. This new-growth was diagnosed as an osteoid sarcoma.

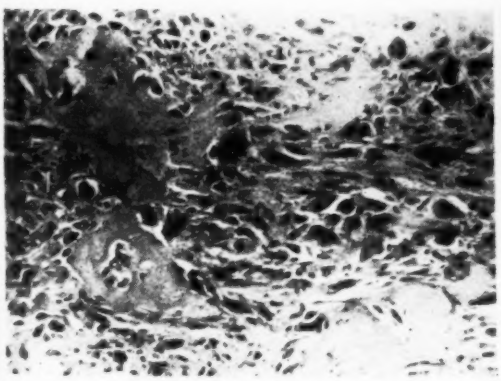

Fig. 2. Osteoid sarcoma of breast, showing osteoid tissue and pleomorphic cells. (40X).

The smaller tumor presented much hyalin connective tissue with relatively few blood vessels. The tumor cells, in the form of small islands and cords, were scattered throughout, infiltrating the dense stroma and somewhat compressed by it. Here and there they were present as larger accumulations, where they demonstrated a definite tendency to form alveoli. These cells were quite uniform in size and cuboid in shape when formed into acini, with scant cytoplasm and small nuclei, the latter having their chromatin in the form of fine threads. Mitotic figures were scarce. This lesion was identified as an adenocarcinoma of low grade malignancy (fig. 3).

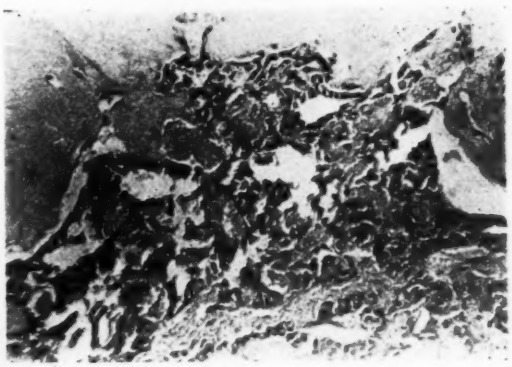

Fig. 3. Adenocarcinoma, a tumor separate and distinct from the sarcoma. (40X).

The remainder of the breast tissue showed increased fibrosis with slight cystic dilatation of some of the ducts, but otherwise nothing of note.

COMMENT

The small but typical adenocarcinoma

arising separately and distinct from the larger mesothelial growth raises again the old question of the existence of a "neoplastic diathesis." Needless to say, this one case proves nothing. But when taken in conjunction with the many other instances of multiple new-growths, and the enormous numbers of family histories of malignancy, it adds, in my opinion, just so much more weight to the affirmative.

The osteoid sarcoma, also called giant cell tumor of the breast, is indistinguishable histologically, in sections stained by hematoxylin and eosin, from osteosarcoma of bone.

Rottino and Howley[1] recently reviewed a selected series of 25 cases of osteoid sarcoma of the breast and found the following: The disease is rather rare, occurs usually in females in the sixth and seventh decades, and seldom causes pain. The time between the discovery of the swelling and that of seeking medical aid varied from three weeks to thirty years. Those tumors with the longer histories exhibited irregular episodes of more or less rapid growth; the others usually grew progressively and quickly. The mass was usually recorded as being firm and movable, but became, as it increased in size, fixed and soft or even fluctuant. In some cases it ulcerated through the skin in the latter stages of the disease. These growths were described as ranging in size from that of a "pigeon egg" to that of an "adult's head." Enlargement of the axillary lymph nodes was rarely observed. Various forms of surgery, roentgen therapy and combinations of both have been uniformly unsuccessful in the management of this disease. Following extirpation, local recurrence was seen early and death with pulmonary metastasis usually took place within the year.

Of extreme interest in the study of this tumor is the simultaneous occurrence of a fibro-adenoma as part of, or adjacent to it. This intimate relationship has been demonstrated in about 40 per cent of the cases reviewed by Rottino and Howley, who quote Stilling as suggesting, as far back as 1881, that the malignant tumor arose by metaplasia and malignant change from the stroma of the benign. It should be noted, however, that in the description of nearly all of these fibro-adenomata some mention was made regarding abnormalities in their stroma. Giant cells were found, or osteoid tissue noted, or "sarcomatous stroma" was mentioned, thus casting suspicion on the benignancy of these tumors. Were they not more adeno-sarcomata than adeno-fibromata?

However, the concept which seems to be most generally held at the present time is that not only osteid sarcoma, but all true sarcomata of the breast, whether they contain bone, osteoid or myxomatous tissue, cartilage or giant cells, or are made up simply of spindle or round undifferentiated cells, arise by metaplasia and malignant change from the stroma of an adeno-fibroma.

While it will be recalled that some of the symptoms and signs presented by the case under discussion strongly suggested a benign tumor, no gross or histologic evidence of a fibro-adenoma was found anywhere in the breast. Failure to demonstrate this neoplasm could well be accidental, however; for it could have been replaced entirely by the malignant growth, or the small remnants of it missed in the gross and microscopic examination, as has been found to have been the case in other reports.

It must be pointed out that many highly anaplastic epithelial tumors of the breast present a histologic picture not unlike that found in the present case. In 1919 Jessup, quoted by Rottino and Howley, reported a case of osteoid sarcoma of the breast, which Ewing thought to be an atypical giant cell carcinoma. But later, this authority[2], while still recognizing such a tumor as an entity which occurs with relative frequency, and which is often mistaken for a mesothelial neoplasm, also described "pure sarcomas of the breast" that exhibited spindle and giant cells, bone and cartilage formation. The larger tumor in this case should be, in my opinion, classified in this last group.

CONCLUSION

A case in which there occurred simul-

taneously and in the same breast, an osteoid sarcoma and an adenocarcinoma of low grade malignancy is reported. The possibility of a "neoplastic diathesis" is suggested, and the origin and nature of osteoid sarcoma of the breast is discussed.

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RESUSCITATION OF THE ASPHYXIATED BABY DELIVERED BY CESAREAN SECTION

J. D. RUSS, M. D.†

NEW ORLEANS

A review of neonatal mortality indicates that babies delivered by cesarean section have a death rate that does not conform with the popular view of the safety of cesarean section. This obstetrical technic has been advanced as a certain way to have a living child. The statistics do not bear this out. When all technics are considered, 2.5 to 3.0 per cent is the standard neonatal mortality. In cesarean section, in general hospitals, the rate is 8 to 10 per cent. In the best obstetrical hospitals the rate is 5 to 6 per cent.

The causes of these deaths are attributed to asphyxia neonatorum, aspiration pneumonia (or atelectasis) and cerebral hemorrhage. The first is a vague undefined term and is frequently used when no autopsy has been performed. Asphyxia and cyanosis are the outstanding symptoms of all three. A review of the causes of asphyxia and how it may be overcome is therefore indicated.

CAUSES OF ASPHPXIA

In the baby delivered through the usual birth channel, there are a number of stresses, strains and pressures, which undoubtedly act as stimuli to cause the initiation of respiration. It has been well known for some years now that the baby takes what might be termed "respiratory movements" as early as the fourth month of gestation. What then causes the change from a respiratory movement of once every three or four minutes to a regular rhythmic respiration, ranging from 40 to 60 per minute? It has been advanced that the pressure on the head, the elongation of the head, the squeezing action upon the chest wall, act as definite stimuli. Further it has been advanced that the sudden change in temperature from body temperature to room temperature acts as a stimulant. All of these undoubtedly contribute to the initiation of respiration. But certainly there is something more, some hidden factor which has not been discovered. In the baby delivered by cesarean section, these stresses, strains and pressures are entirely absent, and this baby does not breathe as quickly and completely or as rhythmically as does the baby delivered from below. Furthermore where routine intratracheal catheterization is performed on the baby delivered by cesarean section, from 3 to 7 c.c. of thick mucoid material, containing mucus, amniotic fluid, blood and sometimes lanugo may be aspirated from the upper respiratory tract and trachea. In the baby delivered from below, routine intratracheal catheterization rarely obtains any of this material. It is quite certain then that the material exists in the upper respiratory passage, which could potentially produce an aspiration atelectasis. Some other causes of asphyxia may be enumerated as follows:

(1). Too frequently the cord is severed as soon as possible. In this case the baby has been deprived of 80 to 200 c.c. of blood, which may comprise anywhere from 15 to 35 per cent of its total blood supply.

(2). Sometimes a condition exists in the mother which tends to produce an asphyxia of the child. These may be enumerated as kidney disease, heart disease, chronic respiratory illnesses, profound anemia, diabetes mellitus, toxemia and premature delivery. Any one of the above conditions added to the already existing tendency for a cesarean section baby to have asphyxia is enough to produce a severe asphyxia in the newborn baby.

(3). The presence of the usually neces-

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sary deep surgical anesthesia, added to the other factors already existing to produce a severe asphyxia, is merely an added factor, and usually can be overcome easily. It is seldom that analgesics are given prior to the operation, eliminating them as a factor to be considered in the asphyxia of the newborn. In many cases babies are delivered when the anesthetic used is either local or spinal anesthetic. Under such conditions these babies do have a tendency to breathe faster than the baby delivered under a gas anesthetic, but much more slowly than if they were delivered from below.

(4). Sometimes a mother has been in labor for some hours prior to the operation itself. In such cases the baby has been subjected to a pounding of the head, and some intracranial damage may have occurred.

RESUSCITATION

It seems most advisable that someone versed in the art of resuscitation should be at hand whenever a cesarean section is performed. When the baby has been delivered it is extremely necessary and profitable to let the cord pulsate for a few minutes and then be stripped towards the baby before it be severed. When this has been accomplished, the baby should be received into a warm blanket, immediately put upon a flat table and without further ado, an intratracheal catheter should be used to aspirate the nose, the mouth, under the gums, the cheeks, and the posterior nasopharynx, and then the trachea should be entered. Aspiration of the upper respiratory tract and trachea should be done gently first; after this has been accomplished, then by means of the resuscitator's own breath, the baby's lungs should be inflated. Inflate gently. As soon as this has been accomplished, if the resuscitator will stop, the lungs will collapse of their own elastic recoil. This method should be repeated as often as 24 times to 30 times per minute, producing an oxygenation of the blood stream. As soon as the baby has taken one or two spontaneous breaths, the intratracheal catheter should be removed, and the baby given pure oxygen by face mask. This should be given from two to five minutes until the baby is breathing rhythmically, the color has turned from a slate gray cyanosis to a healthy pink, and the baby has shown a tendency to want to cry or has begun to cry. The usual methods of identification, silver nitrate in the eyes and so on, are then carried out and the baby quickly removed to a nursery as soon as possible. The aftercare of such a baby is of importance. Every cesarean section baby who has shown any severe asphyxia and has taken longer than five minutes to initiate respiration should be given routine oxygen by tent for at least 12 hours. All of these babies should be watched closely as some of them have definite tendencies to return to a state of cyanosis. Frequent aspirations of the upper respiratory tract should be done.

RESULTS

The above method of resuscitation is an extremely simple one. The presence of a resuscitator at all cesarean sections has proved to be most valuable. In 317 cases performed personally at Touro Infirmary, the following results were noted: six neonatal deaths occurred before 24 hours had elapsed. Of these six deaths, five were autopsied, and found to have massive cerebral hemorrhages. One was found to have a true congenital atelectasis of the newborn. At the same time, 137 sections were observed at which no routine intratracheal catheterization of the baby was performed. Of these 137 sections there were 12 deaths. Of the 12 deaths, 11 were autopsied. The one which was not autopsied was diagnosed to be congenital atelectasis of the newborn. Of the 11 babies autopsied, two died from cerebral hemorrhage, and nine died from aspiration pneumonia. In the lungs of the latter, the major findings were that many alveoli had been opened, but were blocked with a lining membrane of lanugo, blood, meconium and amniotic fluid, a striking similarity to the type of material found in the upper respiratory passages in all cesarean section babies.

It is noted that in the first series the death rate is 1.8 per cent; in the latter cases it is 8.7 per cent. This is far too striking a difference to be disregarded. It certainly should show that the majority of

deaths occurring in cesarean section babies can be easily prevented by the use of a intratracheal catheter in the hands of someone who knows how to use it at the time of delivery.

CONCLUSION

The causes of asphyxia of the newborn delivered by cesarean section, the methods of resuscitation and results have been reviewed. It is emphasized that it is necessary to have someone present at cesarean sections for proper resuscitation of the baby in order to reduce the death rate of babies delivered by this method to a truly irreducible figure.

DISCUSSION

Dr. R. V. Platou (New Orleans): Dr. Russ' plea for routine intratracheal catheterization is certainly justified and amply verified by his striking experience in the Touro Infirmary service. Certainly the procedure is justified in all infants who have any direct or remote evidence of aspiration after birth. It is undoubtedly, from the experiences given us, justified as a routine procedure in all infants born by cesarean section because asphyxia is more apt to be encountered in this situation.

Dr. Russ has a number of critics here and elsewhere who maintain that routine intratracheal resuscitation or routine intratracheal aspiration as a part of the process of resuscitation, is not necessary in all cases. I am sure Dr. Russ would agree with these critics that the vast majority of the infants would survive whether or not this integral part of the procedure were followed. We are most concerned with saving that last percentage who can be saved by refinements dictated by modern knowledge of causes of death in newborn and prematurely born infants.

Dr. Walter Levy (New Orleans): I think as an obstetrician that it should be emphasized, and I think all doctors doing obstetrics will agree, that we do feel much safer in going into the operating room when a man capable of doing aspiration of the trachea of the newborn is present. It it quite distressing to operate and not hear the baby cry. The delay of the first cry affects the central nervous system in the long run. Some cesarean babies, whether local or general anesthesia is used, do not start to cry immediately. It is not always the anesthesia; something just does not set off the mechanism of respiration of the baby. We very casually promise a live baby with cesarean section and sometimes our faces are red when the baby dies. That last per cent we should and must cut down and I think a pediatrician should always be part of our crew in the operating room for a cesarean.

SUMMARIZED REVIEW OF THE NEW ORLEANS CHARITY HOSPITAL SURGICAL DEATHS FROM JULY 1, 1943 TO JULY 1, 1944

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Among the several duties of a hospital staff chairman should be a general review and study of all the fatal cases in his group. These deaths should be properly classified, and the composite statistical tabulations made should be presented to the staff for its analysis and critical consideration.

During the year 1944 the writer served as chairman of the Section on General Surgery of the New Orleans Charity Hospital's Surgical Staff. In accordance with the belief above expressed the record of each fatal case was reviewed, and the important and necessary imformation tabulated. This study was presented to the Section on General Surgery at the December 1944 meeting, at which time the new officers for the ensuing year were also elected.

Until four years ago all of the hospital's surgical specialties met monthly—except during the summer—as one body. This body was known as the Surgical Staff or the hospital's Surgical Division. Since the beginning of the war the Surgical Division, as such, met only twice during the year; and the specialty groups met every month except during the two months in which the Surgical Division met as a whole. At the end of the war the Surgical Division reverted to the pre-war plan of holding meetings.

Since the hospital year, during normal times, begins on July first of each year, I felt that all fatal cases from July 1, 1943 to July 1,1944 should be included in this review. The study was presented to the hospital's Section on General Surgery with the hope that a free discussion would lead to constructive comments. This in turn will improve the already excellent services given surgical cases in this institution.

During the period of time considered exactly 400 deaths occurred in the wards comprising General Surgery. In the same period 5,950 patients were admitted to these

services. According to these figures the mortality rate on General Surgery was 6.72 per cent. Parenthetically, it should be noted that 42,852 patients were admitted to the institution during the same period of time. Among these there occurred 2502 deaths. Hence, the hospital's gross mortality rate for the same period was 5.83 per cent.

Among the 400 patients dying on the General Surgical services were 15 in whom death was due to non-surgical conditions. However, these patients had been admitted with surgical conditions, and before anything could be done for them died of some coincidental medical condition. Exclusion of these 15 cases would lower the mortality rate on these services to 5.6 per cent. A previous similar study by me, published in 1930, showed a gross mortality rate of 6.26 per cent.

Perhaps 95 per cent of all victims of serious injuries in New Orleans and the nearby surrounding territory are rushed to this hospital for treatment. Frequently, too, many patients treated in the homes are rushed to Charity Hospital when death seems imminent. Because of these facts one wonders why the mortality rate in the surgical services in this hospital is not even greater.

CAUSES OF DEATH

Study of the most common causes of death in this series showed that five groups accounted for 286 or 71.5 per cent of these fatalities. Among these five groups accidents (including homicides and suicides) accounted for 117 deaths; carcinoma (not including those causing intestinal obstruction) 80 deaths, intestinal obstruction 35 deaths, abscesses 30 deaths and gangrene 24 deaths.

A second group, consisting of ruptured peptic ulcers, appendicitis, tetanus, and brain tumors accounted for 44 deaths or 11 per cent of the fatal cases. Hence, the nine groups of cases causing 330 of the 400 deaths accounted for 82.5 per cent of all the deaths in this series.

Further analysis shows that accidents caused 29.25 per cent of these deaths and that carcinoma accounted for 20 per cent. Hence these two conditions alone accounted for nearly 50 per cent of all these fatalities. If the six cases of malignancy causing intestinal obstruction are included these two conditions would account for 50.75 per cent of the deaths.

Attention should be called to the fact that among the "carcinoma group" 41 cases, more than 50 per cent, involved the esophagus, pancreas and duodenum. The entire large bowel, including the rectum, was involved in 18 cases. The six fatal cases of carcinoma of the breast is a surprisingly small number in an institution of this size.

Among the entire group of fatalities four were declared "anesthetic deaths." In two of these spinal was used. A third was given ethylene and ether. It was not possible to learn the type of anesthetic used in the fourth case.

Of much interest is the unusually small number of patients dying from appendicitis. In only one of these 10 instances was the diagnosis of chronic appendicitis made. The others were patients with acute appendicitis, several of whom showed perforation. It is of interest to note that there were more deaths from perforated peptic ulcers (14) than from appendicitis.

This institution has almost invariably shown an appreciable number of deaths from tetanus each year. The ten cases herein given are not unusual.

Up to the present time it has not been possible to obtain the necessary figures which would permit computing the mortality rate in each of the following given causes of death. Publishing the results of the present study has been postponed because of waiting for the figures indicating the total admissions in each of the conditions named.

Causes of Death	Number of Cases	Total Number of Cases
Abscesses		30
Brain	6	
Buttocks	1	
Liver	6	
Lung	5	
Perinephritic	1	
Perirectal	2	
Peritonsillar	1	
Periurethral	1	

Causes of Death	Number of Cases	Total Number of Cases
Retropharyngeal	1	
Spleen	1	
Subphrenic	2	
Thigh	1	
Tubo-ovarian	2	
Accidents-Homicides-Suicides		117
Burns	30	
Chest (crush injuries)	5	
Crush injuries (entire body)	4	
Crush injuries (extremities)	2	
Fractures of vertebral column	4	
Gunshot wounds		
Abdomen	9	
Back	3	
Chest	2	
Head	6	
Neck	1	
Head injuries	39	
Rupture of intestines	3	
Stab wounds		
Abdomen	2	
Back	1	
Chest	4	
Face	1	
Stricture of esophagus (lye ingestion)	1	
Acute urinary retention		1
Adenoiditis		1
Anesthetic deaths		4
Aneurysms		4
Appendicitis		10
Ascending myelitis		1
Arteriosclerotic heart disease		1
Beriberi		1
Brain tumors		10
Carcinoma		80
Bladder	1	
Breast	6	
Colon (cecum)	3	
Colon (descending)	2	
Colon (sigmoid)	3	
Colon (transverse)	1	
Common bile duct	1	
Esophagus	10	
Larynx	2	
Lung	3	
Pancreas	13	
Pharynx	1	
Recto-sigmoid	2	
Rectum	7	
Skin	3	
Stomach	18	
Tongue	1	
Unknown source	3	
Cholecystitis		5
Embolism		5
Empyema		3
Esophageal stricture		1
Fecal fistula		1
Gangrene		24
Arteriosclerotic	15	
Diabetic	5	
Gas bacillus infection	4	
Gastric diverticulum		1
Gastric polyposis		1
Goiter		5
Hemorrhoids		1
Hernia		5
Hydrocephalus		4
Intestinal diverticulosis		1
Intestinal obstruction (due to)		35
Adhesions	7	
Imperforate anus (congenital)	1	
Intussusception	2	
Mesenteric thrombosis	2	
Neoplasm	6	
Strangulated hernias		
Femoral	1	
Incisional	1	
Inguinal	3	
Umbilical	1	
Surgical procedure	1	
Volvulus	4	
Unknown cause	6	
Jaundice		3
Leiomyomata of uterus		1
Lymphogranuloma inguinale		1
Myocarditis		1
Osteomyelitis		1
Peptic ulcer (ruptured)		14
Pericarditis		3
Peritonitis (primary)		1
Peritonitis (tuberculous)		1
Parotitis (tuberculous)		1
Rectal stricture		2
Sarcomata		3
Spinal cord tumors		1
Tetaus		10
No given cause of death		5

COMPLICATIONS

The most difficult part of the present survey was the study of the complications in these fatal cases. Frequently several complications were enumerated and no effort whatsoever made to designate the most important one. On several occasions the individual record had to be studied carefully to find out which of the several complications given most likely contributed to the fatal outcome of the case. On occasions this was most difficult. In other instances

it was very obvious that complications played an important role in the outcome of these cases. Nevertheless, none was given. The records show room for considerable improvement along these lines. Despite the several handicaps an effort was made to determine the most important complication in each of these 400 fatal cases.

As the table of complications is checked one notices the usual conditions that so frequently cause death in the average surgical fatality. Hence, bronchopneumonia, generalized peritonitis, septicemia and toxemia, and hemorrhage and shock still retain their importance in this respect. The devasting effects of generalized metastases in cases of malignancy are of course not unexpected. Certainly among surgical patients in general these five complications, along with thrombosis and embolism, comprise a very important group. Noteworthy is the fact that in 92 of these records it was impossible to determine a complication sufficiently important to say it contributed to the death of the patient.

MOST IMPORTANT COMPLICATIONS AMONG THESE 400 DEATHS

Complications	Number of Cases	Incidence per cent
Bronchopneumonia	50	12.50
Diabetes	11	2.75
Generalized peritonitis	49	12.25
Septicemia and toxemia	53	13.25
Meningitis	3	0.75
Hemorrage and shock	77	19.25
Generalized metastases	41	10.25
Malnutrition	24	6.00
No complications given	92	23.00

AUTOPSIES

Among the 400 surgical deaths herein considered 114, or 28.5 per cent, were autopsied at the hospital. An additional 108 cases were declared "Coroner's cases", and the diagnosis in each of these was furnished by the Orleans Parish Coroner. Whether or not complete autopsies were performed on these has not been determined.

GROSS AUTOPSY RECORDS

Total number of deaths on surgical wards	400
Hospital autopsies	114—28.5%
Diagnoses given by coroner's office	108

CONCLUSIONS

1. As Chairman of the Section on General Surgery of the Charity Hospital's Surgical Division during 1944, I studied and grouped appropriately, all deaths occurring in the hospital's general surgical services.

2. The study was presented to (a) the hospital's Surgical Division, and (b) the Section on General Surgery, for their review and critical consideration.

3. Accidents, homicides and suicides were responsible for 29.25 per cent of all deaths in the surgical services. Cancer, accounting for at least 20 per cent of the fatalities, was next in importance. Intestinal obstruction, accounting for 8.75 per cent of the deaths ranked third; and infections (abscesses) fourth (7.5 per cent). It is important and interesting to note that these four conditions accounted for approximately two-thirds of the fatalities in the Charity Hospital's general surgical services during the period considered.

4. Appendicitis was responsible for a surprisingly small number of deaths. The number of perforated peptic ulcer deaths is considered to be unusually large.

5. Tetanus continues to be a very important problem. No case of tetanus occurring on the other services, such as obstetrics and gynecology, is listed in this group.

6. Study of the complications in this series of deaths was rather unsatisfactory. Nevertheless, the usual group of complicating conditions in surgical cases is evident. Cases of thrombophlebitis and phlebothrombosis, and pulmonary embolism, were few.

7. Of these 400 fatalities 114, or 28.5 per cent, were autopsied in the hospital. A coroner's diagnosis was given in 108 additional cases.

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THE PRESENT STATUS OF THE USE OF TETANUS TOXOID

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INTRODUCTION

Can clinical tetanus be prevented? This question as raised by many today will prob-

ably be answered following the reports that should be released by the medical world after the use of tetanus toxoid in World War II. Just as we have seen the rapid use of the wonder drug "penicillin" and its miraculous results in the war that has just ended, I believe the use of tetanus toxoid in the prevention of tetanus in civilian life will be the number one prophylatic agent in saving lives.

The importance of tetanus in civil life may be small. In warfare, however, the conditions which minimize the importance of tetanus in civil populations are completely reversed, and high incidence of tetanus, with its great mortality rate, becomes a major medical problem. In civil life, wounds are few, often superficial and uncontaminated, and antitoxin is quickly available. War wounds, on the other hand, are notably deep, with much devitalized tissue and soil contamination, and serum is often not promptly available.

It will be noted that the incidence of tetanus has varied considerably according to the type of war and the soil pollution in the theater of war. Prior to World War I, in those who contracted tetanus the mortality rate was close to 90 per cent. In the German army during 1914, when troop movements were rapid and lines not stabilized, the incidence was high and the mortality reminiscent of the Franco-Prussian war. When lines were stabilized and medical service prompt and efficient, the incidence of tetanus dropped to 0.8 per 1000 in the German forces, and 0.2 per 1000 in the United States troops, with case mortality in the United States cases as low as 11.1 per cent.

In view of the results to be anticipated from active immunization against tetanus, namely, that the general use of this method would definitely prevent almost every case of tetanus, even the low rate for tetanus prevailing in the closing years of World War I was too high.

Delay in antitoxin administration would certainly cause increased tetanus in active warfare. Such delay is favored by the speed and range of air and surface craft, the use of small groups of men in landing forces, and by the trend in aviation and in ground mechanization of troops, all of which are factors tending toward wide range of action and consequent remoteness from base medical attention.

Before taking up the subject of the use of tetanus toxoid, I would like to present the review of tetanus cases at the Charity Hospital of Louisiana from the year 1936 to 1944 inclusive. The policy at this hospital is to give to every patient seen in the accident room a prophylactic dose of antitoxin, and the cases presented here are actual cases of clinical tetanus diagnosed on admission, and as would be seen later, only three cases of clinical tetanus developed following the use of antitoxin as a prophylactic measure.

The total cases were 289 with about two or three cases that I thought were not clear-cut tetanus cases. The over-all mortality in this series was 47.4 per cent, although all patients received the best in medical care. Some were in such poor condition that treatment was useless. Males were more affected than females, ratio of 184 to 105; race, 182 colored to 107 white.

The three cases reported that received a prophylactic dose before the actual symptoms of tetanus developed are a small per cent when one considers the total number of patients seen at this hospital during the past 10 years.

HISTORY

In 1924, Descomby produced tetanus toxoid by the application of the technic of Ramon which he described for the removal of the toxic properties from diphtheria toxin. Later, Ramon and Zoller, having demonstrated its antigenic value, suggested the use of tetanus toxoid as an agent for active immunization against tetanus. Since that time, the value of this procedure has been demonstrated by many workers, and active immunization with tetanus toxoid has largely supplanted passive protection with antitoxin for the prevention of tetanus among battle casualties. Reports from the British and French armies have indicated its efficiency under actual battle conditions, as

has the experience of our own troops in combat zones.

PREPARATION OF TOXOID

In preparing this toxoid, the broth that was used was a veal infusion base with 1.5 per cent Witte's peptone added. With this medium the potency of the toxin obtained varied between 20,000 and 150,000 m.l.d. (guinea pig) per ml. Detoxification was carried out with formalin and storage at 37° C., and this was called toxoid A. This toxoid was used to compare the antitoxin response to two doses and to three doses. Experience with this toxoid, used under field conditions, showed that reactions of an anaphylactic character were reported by a few authors.

On this account, the Witte's peptone was discontinued in 1940 and hog stomach autolysate plus veal infusion was substituted; call this toxoid, toxoid B. Later the medium used for the production of toxin was one adopted by E. M. Taylor, one-half veal infusion and one-half hog stomach autolysate treated with calcium chloride in order to reduce the iron content to a fixed level. A small amount of nicotinic acid was added, and pH set at about 7.0.

The strain of *Clostridium tetani* used throughout for the production of toxin was obtained in 1929 from the New York State Health Department. Incubation was carried out at between 35° and 36° C. for 10 to 11 days.

Many toxoids containing less than 30,000 m.l.d. per ml. were discarded. Toxoid C, was the toxoid combined with typhoid, para A, and para B vaccine. Up to the present time, no reactions have been reported following the use of toxoids C or B. The antigenicity of the toxoid was tested either by the method of flocculations, antitoxin response in guinea pigs, or combining power, or a combination of these methods.

Comparison of the antitoxin response to two and three doses of tetanus toxoid was tried on two groups of volunteers using toxoid A. Those taking the two dose test had an interval of six weeks between doses, while those taking the three dose test waited four weeks between the first and second dose, and two weeks between the second and third dose. Blood samples were obtained 70 days after the final dose in each group, and the antitoxin titrations of the serum were carried out at various levels in mice. The results showed that 82 per cent of the two dose group, and 92 per cent of the three dose group had at least 0.01 unit of antitoxin per c. c. of serum. On the basis of this comparison, the three doses of toxoid were recommended to be given in elapsed time of six weeks.

These two groups above mentioned were also used to test the antitoxin response to a recall dose. These two groups received 0.1 ml. of toxoid A 70 days after the last dose had been given, and nine days elapsed before the response in antitoxin was measured. Eighty-five per cent of the group showed an increase in antitoxin following the small second stimulus of 0.1 ml.

Following the above published report, Ramon advocated the use of T.A.B.T. which was a combination of tetanus with the usual typhoid vaccine. This combination was used in three doses, given at intervals of three weeks between doses. Ninety-five per cent of the persons had at least 0.02 unit of antitoxin. Response to a recall dose in this group using T.A.B.T. one year after the primary course of inoculations, 74 per cent showed an increase in titer following 0.5 m. T.A.B.T. Those patients having a high antitoxin value before this recall dose gave a yet higher antitoxin response.

In 1941, procedure for active immunization against tetanus of American personnel on active duty was ordered. The agent selected was the plain or fluid tetanus toxoid. The United States Army required the original toxin must have a potency of at least 10,000 guinea pig m.l.d. per ml., and be detoxified by the addition of not more than 0.4 per cent of formalin. The toxoid so produced must be shown to be completely atoxic for guinea pigs when injected subcutaneously in doses of 5 ml. The retention of specific antigenicity is demonstrated by the subcutaneous injections of 1 ml. of the toxoid into each of a group of guinea pigs. At least 80 per cent of the animals so

prepared must show complete protection against 10 m.l.d. of toxin administered six weeks later.

Decision to use fluid rather than alum-precipitated toxoid was based on the satisfactory experience of the British and French with the use of a fluid preparation. The relative infrequency of reactions attending the administration of this form of toxoid and the evidence at hand attesting to its efficacy were thought to constitute a sound basis for its adoption. While considering the alum-precipitated toxoid, its antigenic properties were well appreciated, but this form of precipitate was limited in experience to alum-diphtheria toxoid in children. This lack of experience with precipitated toxoids in adults, and the knowledge that the addition of alum to an antigen in many instances tends to increase its sensitizing action, were additional factors influencing the choice of the type of toxoid.

The use of toxoid for the development of adequate protection against tetanus involves the establishment of a basic active immunity and the subsequent reinforcement of this immunity by the administration of a stimulating or booster dose. Such a procedure is currently followed in the Army.

ARMY'S METHOD OF IMMUNIZATION

Three subcutaneous injections of tetanus toxoid of 1 ml. each are given three weeks apart to each man in the service. A booster dose of 1 ml. is given at end of one year after the initial series. As an added safeguard if the enlisted man leaves for overseas duty, a stimulating dose of 1 ml. is administered during the month prior to departure, unless such departure is within the six months' period subsequent to the administration of a previous dose. If one is injured, an emergency stimulating dose of toxoid is given. Antitoxin is not administered for prophylaxis unless there is reason to doubt that the individual in question had previously received at least the initial series of toxoid injections. If such a doubt does exist, a prophylactic dose of tetanus antitoxin is administered and active immunization with toxoid is initiated at the same time.

DURATION OF PASSIVE TETANUS IMMUNITY

Passive immunization with tetanus antitoxin is generally believed to be of short duration. Zinsser states that "In ordinary human cases, the antitoxin injected into man may be expected to disappear from the circulation within about three weeks."

Bigler and Wernier carried out antitoxin titrations on the blood of 64 children, aged three to ten years at various times after the injection of 1,500 units of tetanus antitoxin. Large amounts of variation in antitoxin titers were found. About the third week the tendency was for the level to fall to 0.01 unit, although some remained as high as 0.1 unit and others fell to 0.003 unit or less. This study showed that with small doses of antitoxin, passive immunity is of short duration. When large doses of antitoxin are given, the early high titers fall within a short period, but lower levels of antitoxin may persist in the blood for a much longer time.

The actual level of antitoxin in the blood required to produce clinical immunity to tetanus has not been definitely established, but there is conclusive evidence that higher values are necessary in passively immunized animals than in those actively immunized. Many believe today that in human beings clinical protection from tetanus requires a titer of 0.01 to 0.1 unit of passively introduced antitoxin while an active immunity of 0.001 to 0.01 unit is sufficient.

After the injections of 10,000 to 150,000 units the tendency is for tetanus antitoxin to persist in the blood in a titer of 0.1 unit four to eight weeks and 0.01 unit to remain for eight to ten weeks.

THE ABSENCE OF ANY ANTITOXIN STIMULATION BY AN ATTACK OF CLINICAL TETANUS

Tetanus infection does not produce a permanent antitoxic immunity, since a demonstrable antitoxin does not persist in the blood after recovery. This is explained in that tetanus toxin is so potent that the absorption of an amount sufficient to produce clinical symptoms is too minute a quantity of antigen to stimulate the production of antitoxin. However, it might be possible

for sufficient antigen to be absorbed to produce a primary antigenic stimulus such as occurs after an initial dose of toxoid and which sensitizes the cells to a later, more effective secondary stimulus. Four such cases were studied and none showed any development of tetanus antitoxin when toxoid was given some time after recovery.

IMMUNITY TO TETANUS INDUCED BY A THIRD DOSE OF TOXOID, TWO YEARS AFTER BASIC IMMUNIZATION

Two years after the completion of basic immunization with two 0.5 c. c. doses of combined alum-precipitated diphtheria and tetanus toxoids, 31 allergic children were given a third, or "booster" dose of 0.5 c. c. (18 received combined alum-precipitated toxoids and 13 alum-precipitated tetanus toxoid alum).

Comparison of the initial antitoxin levels and the corresponding titers one month and two years after administration of the "booster" dose of toxoid for one group of children two years after basic immunization and for another group from three to 15 months after immunization and for a final group given basic immunization only revealed that the per cent of the first group of children attaining the highest antitoxin levels of 0.5 to 1 unit or more of antitoxin within one month of receiving their last dose was not only significantly higher than those of the children of the last two groups (100 as compared with 70 and 32 per cent, respectively) but that two years later the ratio between the patients of the three groups who showed an antitoxin titer of 0.1 unit or more was 4:1 (72 and 18 per cent, respectively) for the children of the first and the second groups and 8:1 (72 and 9 per cent respectively) for the children of the first and the third group.[10]

IMMUNITY INDUCED BY A THIRD DOSE OF TOXOID THREE YEARS AFTER BASIC IMMUNIZATION

During the present emergency the subject of active immunization against tetanus commands special attention. Of particular importance is the degree of immunity induced by the stimulating, or "booster" dose of tetanus toxoid in relation to the interval between basic immunization and the administration of the "booster" dose.

Peshkin has shown that the initial tests made within two months after the "booster" dose showed the antitoxin value to be higher after the third dose than after the second. Tests performed one year later revealed not only that the drop of the titer was retarded after the third dose, but that the antitoxin values were distinctly higher (a ratio of 14.5 to 1 or an average antitoxin titer of 0.641 unit as compared with 0.044 unit).

The booster dose injection showed that the titer was always higher and lasted for a much longer period than that which followed basic immunization as well as that which followed a "booster" dose of combined toxoids given three months to two years after basic immunization. The antitoxin titer obtained on the seventh day after the administration of a "booster" dose of toxoid given three years after basic immunization was always adequate and it was at its maximum at this time in the majority of instances.

ACTIVE IMMUNIZATION OF HUMAN BEINGS WITH COMBINED CLOSTRIDIUM PERFRINGENS AND TETANUS TOXOIDS

By using concentrated *Cl. perfringens* toxoid suspended in plain tetanus toxoid combined immunization as evidenced by antitoxin titrations, has been demonstrated both in guinea pigs and in human beings. The antitoxin response to tetanus toxoid is greater when the toxoid is given in combination with *Cl. perfringens toxoid* than when it is given alone.

According to previous work, guinea pigs so immunized show ability to withstand large doses of a living culture of *Cl. perfringens* inoculated intramuscularly. On the basis of analogy there is reason to believe that the same might be the case in human beings in whom chance infection probably does not involve many spores.

PLAIN FLUID TOXOID VERSUS ALUM-PRECIPITATED TOXOID

Study in the United States Navy was started in 1935 on the U.S.S. Relief, the fleet hospital ship, with plain formal toxoid and was completed on the same group in which alum-precipitated toxoid was used exclusively. This study showed: (a) that

alum-precipitated toxoid was a much more efficient immunizing agent than plain toxoid, and (b) the longer the interval, up to eight weeks, between the injections (alum) the better were the results.

In 1937, another study was done at the United States Naval Academy and reported by Hayden and Hall. This test was carried out on football players and no individual failed to respond with an adequate blood level of antitoxin.

In 1938, 2300 men were injected using alum-precipitated tetanus toxoid. Reactions were at a minimum. Eight had sore arms, two had fever and malaise, and one had urticaria. In the second injection, eight weeks later, 1800 men were injected with toxoid A (already described in the beginning of the paper). One boy had an anaphylactic shock reaction, and the use of this toxoid was stopped and the remaining 500 were injected with another toxoid. No reactions were reported from these 500. Something definite in the toxoid A was producing this reaction. This was probably the Witte's peptone already taken up in this paper.

In 1939, the incoming class of 793 to the United States Naval Academy were injected and only one reaction was noted, a fever which may or may not have been due to the toxoid. No reactions were reported from the second injection.

During the period between 1934-1940, titration of serum-antitoxin was done in the United States Navy. Fifty-three men were given two injections of alum-precipitated tetanus toxoid, 0.5 c. c. each, eight weeks apart, as basic immunization. Fourteen weeks later 0.5 c. c. of A.P.T.T. was given, but blood was also drawn before the injection and one week afterward another titration was made.

What is the minimum antitoxin level necessary for protection against tetanus? Gold chose a level of 0.1 unit per c. c. as the level for protection. The Navy has shown in repeated cases that individuals with a serum-antitoxin level of only 0.01 unit per c. c. of serum respond rapidly with high blood antitoxin levels upon toxoid stimulation. The antigenicity of toxoid and toxin are the same.

Bergey, Brown, and Etris showed that circulating antitoxin does not measure the total protection, the tissue immunity being considerably greater. They also have demonstrated in animals that 0.01 unit antitoxin per c. c. is amply protective. W. T. Harrison of the National Institute of Health said "as far as I am aware, there are no figures available which will indicate the antitoxin level necessary to prevent tetanus. The most important factor, it seems to me, is the development of a situation within the body which will permit rapid formation of antitoxin should it become necessary."

It is better to over rather than under-immunize. The Navy's plan is after basic immunization with two injections of alum-precipitated tetanus toxoid, eight weeks apart, a man, when wounded, receives an injection of toxoid, and all patients regardless of injury, once having been immunized, receive an injection of toxoid every four years thereafter.

REACTIONS FOLLOWING TOXOID INJECTIONS

The usual occurrence is after the second injection. Reactions are usually spoken of as immediate, delayed, or late, depending upon their time of onset after the injection. Immediate reactions are those that occur within one hour after the injection; when severe, referred to as an anaphylactic shock or crisis. In severe shock there is loss of consciousness and possibly convulsions usually at times preceded by itching of the nose or body, or a tingling sensation. Immediate relief following injection with adrenalin has been reported. No deaths have been reported by toxoid injection in general.

Accelerated reactions usually occur from one to 24 hours after the injection.

Late reactions may occur from 24 hours to two weeks after injection with chills, fever, severe urticaria, edema, adenitis, joint pains, and gastrointestinal disturbances. In children negative skin tests are apparently the usual thing whether or not reactions occur. No relationship between pollen, contact, and food allergy and the reactions following toxoids has been decided upon

as yet. From present known facts, there would seem to be little practical value in doing routine skin tests with toxoids and vaccine.

The advantages inherent in the active immunization with tetanus toxoid are that the serum antitoxin titer may be raised to a level higher than that afforded by the usual prophylactic dose of antitoxin (horse-serum), that it is more lasting, that it can be rapidly re-elevated by a toxoid injection in an emergency and, perhaps most important of all, that it avoids the very real dangers of reaction or sensitization incident to serum administration.

Cases of allergy following the second injection of alum-precipitated tetanus toxoid have responded well to an injection of epinephrine. Many believe a scratch test should always be made before the second and any later injections of the toxoid preparations, and for purposes of record and comparison it should be done before a first injection.

The test is done as follows, a drop of the toxoid that is to be injected should be placed on the abraded area, lightly rubbed in and allowed to remain 15 minutes. It is then wiped off, if no urticarial wheal or erythema appears, then the required injection may be made, but always with precautions. If there is a reaction, injection should be postponed and the test repeated in from four to six months.

Under all circumstances, with any dose, the patient must be kept under observation for at least half an hour, for any reaction of serious importance will begin within this time. The physician should always have close at hand a bottle of epinephrine diluted 1:1000, a sterile hypodermic syringe and a tourniquet (best to have adrenalin in syringe ready for injection). If there is any evidence of general reaction such as itching, general pruritus, erythema or urticaria, cough or a sense of pressure in the chest, the tourniquet should be tightly applied above the injection site and epinephrine should be administered in doses of from 0.5 to 1 c. c. and the procedure repeated as indicated. It is better to give the toxoid injection in the arm, as the tourniquet may be applied more effectively.

CONCLUSION

The war has given us proof of the potency of tetanus toxoid with surprising speed. The optional procedures to be used for adults in military service and for infants and children, however, are unsettled. Age and occupation certainly have an important bearing on the technic used.

Up to the present time, there have been no reported cases of tetanus following the completion of the basic active immunization with tetanus toxoid in the United States Armed Forces. The British have reported a few cases following the second injection of toxoid, but no cases have been seen following the completion of the immunization.

The future is very bright for the prevention of tetanus. Now the biggest problem is to carry to the public in the form of educational programs, posters, and so on, the value of active immunization against tetanus, and by instituting in the Public Health programs throughout the country active immunization so the clinical cases of tetanus can be prevented.

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NEW ORLEANS

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THE AMERICAN MEDICAL ASSOCIATION'S PROGRAM FOR MEDICAL CARE

In the organization section of this number of the Journal, the program of the American Medical Association for the improvement of medical care is printed verbatim. This program has finally evolved after many months' study by the Council on Medical Service of the American Medical Association. It represents the answer of the American Medical Association and of organized medicine to the attempts that are being made by certain people to bring about the regimentation of the practice of medicine. It is earnestly to be hoped that all members of the State Medical Society will read this program and more particularly note that the previous fourteen point program has been clarified so it now consists of ten points. The members of the House of Delegates certainly should be thoroughly familiar with the program because Louisiana must not fall behind in an effort to back up the national organization in its efforts to by-pass some of the plans which are emanating from Washington for medical care of the lower income group.

It will not be possible to discuss in detail the national health program. Many of the ten points are without controversial features and are self-evident. On the other hand there are two or three aspects of the program which might not be entirely clear to a physician and particularly to a Louisiana physician. In point two, for example, the last sentence points out that the program for national health should include hospitalization for those who need it but are unable to pay, and for medical care to be provided by the physician of the patient's choice. The State of Louisiana is unique among the other states of the Union in that it has a program of state hospitalization the like of which is not to be found in any other state. For the medical indigent two very large state hospitals are provided in New Orleans and in Shreveport, and in Alexandria, Monroe, Lafayette and elsewhere there are smaller state hospitals. These hospitals are of such a size and necessarily are close to only a small number of practitioners so that it would be physically impossible to provide medical care by a physician of a patient's choice. If it be the intent of point two to use all hospitals in local situations, what would happen to our large state hospitals?

It should be noted in point five there is provision made for health and diagnostic centers. The Federal Government may aid in providing such centers but the community must maintain them. Are some of our poor towns and impoverished parishes able

to maintain such institutions? How much help should the state provide for their maintenance? As a matter of fact are such facilities necessary for a large number of communities?

Point number seven is decidedly ambiguous. The provision for medical care of all veterans seems to run in direct conflict with the Veterans Administration and their present methods to give care to the veterans. Would this mean that the veterans hospitals would be abolished if point seven were accepted? Certainly there would be a tremendous amount of difficulty in putting over such a plan as outlined in this particular point. On the other hand the veterans who will not need hospitalization but out-patient or minor medical care can be given service most satisfactorily under this particular plan. The Veterans Administration has already entered into contracts with the Kansas State Medical Society, the Michigan State Medical Society, the Michigan Medical Service of Detroit, the California Physicians' Service of San Francisco and the Medical Service Administration of New Jersey to furnish medical service to veterans. It is not at all clear whether this medical service includes medical care over a long period of time or surgical care when major surgery is presented. The Kansas plan looks as if it were simply to take care of out-patient examinations and treatments, whereas the Michigan contract with the Veterans Administration looks as if service would be rendered for any type of disability service-incurred, or incurred after completion of service irrespective of its type, character or kind.

Many other features of the ten point program of the American Medical Association could be discussed here and will undoubtedly be discussed in the House of Delegates when it meets in Alexandria next May.

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

It is a real satisfaction to note that the New Orleans Graduate Medical Assembly will again present a program this year. Owing to the exigencies of war and travel situation, this very excellent organization had to suspend its activities for several years.

This year the ninth meeting will be held April 1-4. An excellent list of speakers in the various fields of medicine has been provided by the program committees. Sixteen distinguished speakers from all over the country from the Pacific Coast to the Atlantic Coast, from the Great Lakes to the Gulf of Mexico, will appear on the program. More specifically they include such men as Dr. William D. Stroud of Philadelphia whose book on diagnosis and treatment of cardiovascular diseases is well known. Dr. George T. Harrell, recently elected professor of medicine at the Bowman-Gray School of Medicine, Winston-Salem, will also talk on subjects of a medical nature. Dr. Russell L. Haden of Cleveland is the third of the medical representatives. In surgery there are two speakers: Col. J. B. Brown of the Valley Forge Hospital and Dr. Henry N. Harkins, associate professor of surgery at Johns Hopkins University. In pediatrics the head of the department of pediatrics at the University of Texas Medical School, Galveston, Dr. Arild E. Hansen, will represent this particular field. In gynecology Dr. G. C. Schauffler of Portland, Oregon, will speak on subjects which will be of interest to the general practitioner and not on the highly specialized features of his especial branch of medicine. Dr. Earl D. McBride of Oklahoma City will discuss the most recent advances in orthopedic surgery and Dr. James W. White of New York, in ophthalmology. These names represent samples of a few of the speakers who will present subjects in which they are authoritative. It can be seen that the speakers are recognized masters of their specialties. Intellectually and scientifically they will give the attendants at the meeting information which will be of tremendous value in the management of their patients.

We would urge the doctors of Louisiana to attend this important meeting. All of you have been submerged in the activities of your professional work in the last few

war years, doing double, even triple duty. Here is an opportunity to refresh your knowledge of medicine and a splendid chance to learn what is going on in the present day world of medicine. Parenthetically it is well to remember that you physicians need a rest and a change. How better could you spend a few days than in combining such a change with the obtaining of scientific knowledge?

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HEALTH OF LOUISIANA

New Orleans is the only city of Louisiana which is listed in major cities of the United States in the weekly mortality index published by the Bureau of the Census of the Department of Commerce. The summary of the deaths which took place in New Orleans in 1945 has just been made available. It is interesting to note that there were over 400 less deaths in the city than during the previous year. The total number of people dying in New Orleans was 7040. These deaths were distributed 4476 in the white population and 2564 in the colored. It is gratifying to find the number of deaths reduced in the city, particularly in view of the fact that there has been a considerable population increase in New Orleans.

The figures for the number of deaths in the whole State of Louisiana are not available; however, the figures for the reportable diseases for the year 1945 are at hand. As has been pointed out repeatedly, the venereal diseases are by far greater in number than all other reported diseases. Syphilis, for example, is reported to have occurred in 14,015 people in Louisiana. There were over 20,000 reported cases of gonorrhea. These figures of course are by no means accurate and do not represent the actual incidence of gonorrhea in the state. A certain number of the cases reported were from military sources and undoubtedly there were a very large number of cases that were never reported at all in the civilian population.

The respiratory diseases as a group were greater in number than diseases of other organs or systems. There were 2294 cases of pulmonary tuberculosis. There were 1988 cases of unclassified pneumonia. There were 593 cases of pneumococcic pneumonia and slightly over 8000 cases of influenza, most of which cases, it is fair to assume, had respiratory manifestations and expressions.

The drop in contagious diseases in children is noteworthy. There were only 429 cases of diphtheria, for example; only 699 cases of scarlet fever; slightly over 100 cases of measles, with very few cases of chickenpox, probably not a true figure as probably most cases were not reported.

It is interesting to note that typhus fever is more than three times as great as is the incidence of typhoid fever. Only 76 cases of undulant fever were reported but one wonders how many of these cases were of a subacute character and might have been missed. It is distressing to note there were 120 cases of poliomyelitis. These are patients which had paralytic expressions, undoubtedly. Meningitis was not particularly prevalent, there being only 115 cases in the entire year.

On the whole the morbidity report is most satisfactory. Definitely the diseases that have to be controlled more adequately than they are now are those that are labeled venereal diseases. Respiratory infections are a tremendous cause for illness and even for death but distinctly there has been improvement in the death rate in these diseases. The other contagious and infectious diseases are, on the whole, being controlled most happily.

Another most satisfactory feature of the health conditions of Louisiana is the sharp marked drop in the maternal mortality rate, which in 1933 was 84.0 and which was in 1943 only 32.1; a drop of 61.8 per cent. The infant mortality rates have also been propelled sharply downward. In 1933 in Louisiana the rate was 70.1, according to the figures recently released from the Children's Bureau. This dropped to 44.7 in 1943, a fall of 36 per cent.

ORGANIZATION SECTION

The Executive Committee dedicates this page to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

CONSTRUCTIVE PROGRAM OF THE AMERICAN MEDICAL ASSOCIATION FOR THE IMPROVEMENT OF MEDICAL CARE

On February 16 the following release from the A.M.A. was carried over the radio and in the daily newspapers of the United States. In essence this represents a sincere attempt of the A.M.A. to provide adequate medical service for the people of the United States on a voluntary prepayment plan. Every member of our organization should read this plan and help by constructive thought and influence in the preparation of plans for such service in the State of Louisiana. You should also be informed that the Committee on Voluntary Prepayment Medical Service of the State Society is very actively at work and will unquestionably bring in some plan for consideration at the approaching meeting of the House of Delegates. This important step by the A.M.A. should be a motivating influence to the doctors and help them in solving intelligently the problem for our state.

RELEASE FROM THE A.M.A.

The Board of Trustees of the American Medical Association and the Council on Medical Service of the American Medical Association at a meeting just completed in Chicago have taken a long step toward protection of the American people against the costs of sickness through participation in a voluntary prepayment sickness plan now developed under the authority of the American Medical Association.

The fundamental step in the development of this plan was the establishment of standards of acceptance for medical care plans which have the approval of the Council on Medical Service of the American Medical Association. Any plan which meets the standards of the Council will be entitled to display the seal of acceptance of the American Medical Association on its policies and on all of its announcements and promotional material. In order to qualify for acceptance, the prepayment plan must have the approval of the state or county medical society in the area in which it operates. The medical profession in the area must assume responsibility for the medical services included in the benefits. Plans must provide free choice of a qualified doctor of medicine and maintain the personal, confidential relationship between patient and physician. The plans must be organized and operated to provide the greatest possible benefits in medical care to the subscriber.

Medical care plans may be in terms of either cash indemnity or service units, with the understanding that benefits paid in cash are to be used to assist in paying the costs incurred for medical service. The standards also include provisions relative to the actuarial data that are required, systems of accounting, supervision by appropriate state authorities and periodic checking and reporting of the progress of the plan to the Council.

Coincidentally with the announcement of these standards of acceptance, there was organized, as a voluntary federation, an organization known as Associated Medical Care Plans, Inc. This independent association will include as members all plans that meet the minimum standard of the Council on Medical Service of the American Medical Association. The Association Medical Care Plans will undertake to establish coordination and reciprocity among all of these plans so as to permit transference of subscribers from one plan to another and use of the benefits in any state in which a subscriber happens to be located. Under this method great industrial organizations with plants in various portions of the United

States will be able to secure coverage for all of their employees. Moreover, it will be possible for the Veterans Administration, welfare and industrial groups as well as government agencies, to provide coverage for the people in any given area through a system of national enrollment. In addition, the Associated Medical Care Plans, Inc., will undertake research and the compilation of statistics on medical care, provide consultation and information services based on the records of existing plans and engage in a great campaign of public education as to the medical service plan movement under the auspices of state and county medical societies.

The Board of Trustees of the American Medical Association also announced the establishment under its Council on Medical Service of a Division of Prepayment Medical Care Plans with a director and a staff who will administer the activities of the Council on Medical Service related to the promotion and development of medical care plans in all of the states.

In announcing its proposals for a nationwide provision of sickness insurance on a mutual nonprofit basis, the Association through its President and the Board of Trustees authorizes the publication of its complete health program with the ten points, which include the development of services in the field of preventive medicine, maternal and child health, voluntary prepayment plans for protection against the costs of sickness, compensation for loss of wages due to illness, the care of the veteran and the development of a high standard of housing, nutrition, clothing and recreation. The American Medical Association last June through its Board of Trustees and Council on Medical Service announced a 14-point program to improve the health and medical care situation in the United States. In October 1945 the interpretation of these 14 points and methods of implementation were adopted by the Council on Medical Service. In December 1945, the House of Delegates approved the whole program, suggested its rearrangement and directed the Board of Trustees to keep the program constantly up to date so that it will stay at least even with and, if possible, a step ahead of the needs of the public.

With this in mind the Board of Trustees has adopted a restatement of the 14 point program, which clarifies still further the position of the American Medical Association on some of these points and brings into the program more definitely such matters as maternal and child welfare, medical research, the medical care of the veteran and the part to be played by the voluntary health agencies.

This restatement follows:

NATIONAL HEALTH PROGRAM OF THE AMERICAN MEDICAL ASSOCIATION

1. The American Medical Association urges a minimum standard of nutrition, housing, clothing and recreation as fundamental to good health and as an objective to be achieved in any suitable health program. The responsibility for attainment of this standard should be placed as far as possible on the individual, but the application of community effort, compatible with the maintenance of free enterprise, should be encouraged with governmental aid where needed.

2. The provision of preventive medical service through professionally competent health departments with sufficient staff and equipment to meet community needs is recognized as essential in a health program. The principle of federal aid through provision of funds or personnel is recognized with the understanding that local areas shall control their own agencies as has been established in the field of education. Health departments should not assume the care of the sick as a function since administration of medical care under such auspices tends to a deterioration in the quality of the service rendered. Medical care to those unable to provide for themselves is best administered by local and private agencies with the aid of public funds when needed. This program for national health should include the administration of medical care including hospitalization to all those needing it but unable to pay, such medical care to be provided preferably by a physician of the

patient's choice with funds provided by local agencies with the assistance of federal funds when necessary.

3. The procedures established by modern medicine for advice to the prospective mother and for adequate care in childbirth should be made available to all at a price that they can afford to pay. When local funds are lacking for the care of those unable to pay, federal aid should be supplied with the funds administered through local or state agencies.

4. The child should have throughout infancy proper attention including scientific nutrition, immunization against preventable disease and other services included in infant welfare. Such services are best supplied by personal contact with the mother and the individual physician but may be provided through child care and infant welfare stations administered under local auspices with support by tax funds whenever the need can be shown.

5. The provision of health and diagnostic centers and hospitals necessary to community needs is an essential of good medical care. Such facilities are preferably supplied by local agencies, including the community, church and trade agencies which have been responsible for the fine development of facilities for medical care in most American communities up to this time. Where such facilities are unavailable and cannot be supplied through local or state agencies, the federal government may aid, preferably under a plan which requires that the need be shown and that the community prove its ability to maintain such institutions once they are established (Hill-Burton bill).

6. A program for medical care within the American system of individual initiative and freedom of enterprise includes the establishment of voluntary nonprofit prepayment plans for the costs of hospitalization (such as the Blue Cross plans) and voluntary nonprofit prepayment plans for medical care (such as those developed by many state and county medical societies). The principles of such insurance contracts should be acceptable to the Council on Medical Service of the American Medical Association and to the authoritative bodies of state medical associations. The evolution of voluntary prepayment insurance against the costs of sickness admits also the utilization of private sickness insurance plans which comply with state regulatory statutes and meet the standards of the Council on Medical Service of the American Medical Association.

7. A program for national health should include the administration of medical care, including hospitalization, to all veterans, such medical care to be provided preferably by a physician of the veteran's choice with payment by the Veterans Administration through a plan mutually agreed on between the state medical association and the Veterans Administration.

8. Research for the advancement of medical science is fundamental in any national health program. The inclusion of medical research in a National Science Foundation, such as proposed in pending federal legislation, is endorsed.

9. The services rendered by volunteer philanthropic health agencies such as the American Cancer Society, the National Tuberculosis Association, the National Foundation for Infantile Paralysis, Inc., and by philanthropic agencies such as the Commonwealth Fund and the Rockefeller Foundation, and similar bodies have been of vast benefit to the American people and are a natural outgrowth of the system of free enterprise and democracy that prevail in the United States. Their participation in a national health program should be encouraged and the growth of such agencies when properly alministered should be commended.

10. Fundamental to the promotion of the public health and alleviation of illness are widespread education in the field of health and the widest possible dissemination of information regarding the prevention of disease and its treatment by authoritative agencies. Health education should be considered a necessary function of all departments of public health, medical associations and school authorities.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR OF MEETINGS

March 12. Medical Toastmasters, New Orleans Athletic Club, 6:30 p. m.
Eye, Ear, Nose and Throat Staff, 8 p. m.
Orleans Parish Radiological Society, Radiology Department, Charity Hospital, 8 p. m.

March 13. Woman's Auxiliary, Orleans Club, 3 p. m.
Clinico-pathologic Conference, Marine Hospital, 7:30 p. m.
Touro Infirmary Staff, 8 p. m.

March 14. Clinico-pathologic Conference, Touro Infirmary, 12 noon.

March 15. I. C. R. R. Hospital Staff, 12:30 p. m.

March 18. Hotel Dieu Staff, 8 p. m.

March 19. Medical Toastmasters, New Orleans Athletic Club, 6:30 p. m.
Charity Hospital Medical Staff, 8 p. m.

March 20. The Orleans Society of X-Ray Technicians, 7:30 p. m.
Charity Hospital Surgical Staff, 8 p. m.

March 22. L. S. U. Faculty Club, 8 p. m.
Ochsner Clinic Staff, 8:30 p. m.

March 25. Board of Directors, Orleans Parish Medical Society, 8 p. m.

March 26. Medical Toastmasters, New Orleans Athletic Club, 6:30 p. m.
Baptist Hospital Staff, 8 p. m.

March 27. Clinico-pathologic Conference, Marine Hospital, 7:30 p. m.
French Hospital Staff, 8 p. m.

March 28. Clinico-pathologic Conference, Touro Infirmary, 12 noon.
DePaul Sanitarium Staff, 8 p. m.

March 29. New Orleans Hospital Dispensary for Women and Children Staff, 8 p. m.

April 1-4. The New Orleans Graduate Medical Assembly, Municipal Auditorium.

April 4. Joint meeting Orleans Parish Medical Society with The New Orleans Graduate Medical Assembly, Hutchinson Memorial Auditorium, 8 p. m.

April 5. Medical Advisory Committee, Charity Hospital Visiting Staff, 11 a. m.

April 8. Scientific Meeting, Orleans Parish Medical Society, 8 p. m.

NEWS ITEMS

Dr. Ruth Aleman attended a meeting of the American Pediatric Society in Detroit January 15-18.

Dr. Ernest Celli was recently elected president of the New Orleans Hospital Council. Dr. Lewis E. Jarrett was elected vice-president.

Dr. Daniel J. Murphy addressed the membership of the Second District Medical Society at their January meeting.

Dr. Wilbur Smith was re-elected president of the National Collegiate Athletic Association at their annual meeting which was recently held in St. Louis.

Dr. Edwin A. Socola recently addressed members of Agramonte, honorary premedical society at Loyola university, at their eighth annual banquet.

Dr. H. Randolph Unsworth read a paper entitled Psychosomatic Medicine before the recent meeting of the American Therapeutic Society in Cleveland.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge
Morehouse	Second Tuesday of every month	Bastrop
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of very month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

ANNUAL MEETING

Information has been received from Dr. O. B. Owens, Chairman of the Committee on Arrangements for the 1946 meeting, that the following doctors will serve as chairmen of subcommittees:

Dr. R. E. C. Miller—Arrangement of Commercial Exhibits.

Dr. R. E. McGill—Badges.

Dr. Noel T. Simmonds—Commercial Exhibits.
Dr. D. B. Barber—Decorations.
Dr. A. E. Percy—Entertainment.
Dr. James A. White—Finance.
Dr. Robert H. Bryant—Golf.
Dr. R. U. Parrott—Halls and Meeting Places.
Dr. H. O. Barker—Lanterns and Projectors.
Dr. A. L. Culpepper—Luncheons.
Dr. R. B. Wallace—Publicity.
Dr. H. H. Hardy—Registration.
Dr. R. G. Masterson—Scientific Exhibits.
Dr. B. H. Texada—Signs.
Dr. J. T. Cappel—Transportation.

Drs. D. B. Barber, A. L. Culpepper, E. R. Gandy, J. H. Landrum, F. M. Lett and King Rand, will serve as the Advisory Committee to the Committee on Arrangements.

SPECIAL NOTICE

Information has been received that hearings on the Wagner-Murray-Dingell Bill originally scheduled to begin in the Senate on March 18 have been postponed until April 2 and will last for about one month.

ATTENTION MEDICAL VETERANS

Applications are now being accepted by the Deans' Committee for residencies in New Orleans Veterans (LaGarde) Hospital. Address Committee 1430 Tulane Ave., New Orleans 13.

DR. MAGRUDER RESIGNS

One of the most influential members of the Board of the Tulane Educational Fund in matters medical was Dr. M. J. Magruder. Dr. Magruder had been on the Board since 1914 and in 1924 he became the Chairman of the Medical Advisory Committee, on which he served ten years previously. Many of the Tulane alumni have come in contact with Dr. Magruder and all medical alumni appreciate how influential and unsparing of his time was Dr. Magruder in improving the character and caliber of the medical school.

DR. MATAS AND OTHERS HONORED BY TOURO BOARD

On Wednesday, January 20, the Board of Managers of the Touro Infirmary presented to Dr. Rudolph Matas a gold plaque in recognition of his fifty years of service on the staff of this institution. Up until the time of his retirement several years ago, Dr. Matas was active and busy in surgical affairs of this splendid institution.

In addition to this tribute to Dr. Matas, gold cards in recognition of their appointment as consultants were presented to four other staff members. These were Dr. Randolph Lyons and Dr. Charles Eshleman, consultants in medicine, and Dr. Isidore Cohn and Dr. L. H. Landry, consultants in surgery.

CHICAGO MEETINGS

Dr. Val Fuchs, President of the State Medical Society, and Dr. P. T. Talbot, Secretary-Treasurer, attended as representatives of the organization, the Conference of Secretaries and Editors of State Societies, National Conference on Medical Service, and Conference on Medical Education and Licensure, held in Chicago in February.

Dr. Roy B. Harrison was in attendance, as representative of the Louisiana State Board of Medical Examiners, at the Conference on Medical Education and Licensure and presented a paper entitled "Licensure by Reciprocity or Interstate Endorsement".

Dr. Max Lapham, represented Tulane Medical School and Dr. George McCoy, Louisiana State University Medical School, at this conference also.

THE 64TH GENERAL HOSPITAL CITED

Louisiana State University School of Medicine Base Hospital No. 64 has been awarded a certificate by Major General Norman T. Kirk, Surgeon General of the U. S. Army. This reads as follows: "The excellent cooperation which we received from Louisiana State University and the outstanding service which was rendered by the 64th General Hospital, sponsored, organized and staffed by LSU, contributed materially to the exceptional record of the medical department."

COL. C. E. GORMAN, M.C.

Col. C. E. Gorman has also been honored, for outstanding services rendered to the U. S. Army, by receiving the Legion of Merit.

LT. COL. MICHAEL E. DEBAKEY, M.C.

The Legion of Merit has been awarded by the Surgeon General of the U. S. Army to Lt. Col. Michael E. DeBakey, chief of general surgery branch, surgical consultants division.

NEWS ITEMS

Dr. B. B. Weinstein has been elected to honorary membership in the Association Mexicana de Ginegologia y Obstetricia.

At a recent meeting of the Louisiana Conference of Social Welfare, Dr. Samuel Barkoff was one of the speakers.

The American Association of Obstetricians, Gynecologists and Abdominal Surgeons Foundation announces that the annual prize contest will be conducted again this year. For information address Dr. James R. Bloss, Secretary, 418 11th Street, Huntington 1, W. Va.

Appointments to fill vacancies in the Reserve Corps of the United States Public Health Service are now being made, and examinations for Regular Corps appointments will be held in April and May, Surgeon General Thomas Parran has announced.

HULL COMMENCEMENT ORATOR

Dr. Edgar Hull, director of the Department of Medicine at the Louisiana State University School of Medicine, delivered the Commencement Address at Loyola University's full trimester commencement on the evening of February 7. The title of his talk was "The Inseparability of Liberal and Practical Knowledge."

TULANE SCHOOL OF TROPICAL MEDICINE

It has been announced that $10,000 has been allotted by the National Institute of Health at Bethesda to the School of Tropical Medicine, Tulane Medical School. This money is to be used for investigative work in amebiasis.

NEW TULANE APPOINTMENTS

Dr. Maxwell Leonard Littman, Bacteriology in the School of Medicine; Dr. Joseph Edwin Schenthal, instructor in medicine in the School of Medicine; Dr. Harry Corbett Tiller, instructor in medicine, in the School of Medicine; and Dr. Richard P. Vieth, instructor in pediatrics in the School of Medicine.

PERCENTAGE OF BIRTHS IN HOSPITALS

In 1937 in Louisiana 27.5% of all births occurred in hospitals. In 1944 62% of such births were in hospitals. Of the EMIC births, 84% were institutional.

It might be observed that Louisiana is well down on the list of the births taking place in hospitals in various states. In some states as many as 95% to 98% of babies are delivered in hospitals.

AMERICAN HOSPITAL ASSOCIATION

The American Hospital Association has prepared three pocket-size booklets concerning the establishment of new hospital facilities. Two of these booklets are for organizations already established, one of which is entitled "Organization of Medical Staff" and the other "Governing Board of the Hospital". These booklets may be obtained at 20 cents a copy or in larger quantities at 12 cents each, from the Department of Public Relations, American Hospital Association, Chicago 10.

NEW NATIONAL FOUNDATION TO COMBAT ARTHRITIS

This foundation is being established on a national basis to study the cause and treatment of rheumatic diseases. The purpose is to raise two and a half million dollars to establish at Hot Springs National Park, Arkansas, a National Arthritis Research Foundation. President Harry S. Truman has already accepted the position of Honorary Chairman of this foundation.

AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

The annual meeting of this organization will be held at the Drake Hotel, Chicago, Illinois, June 20-22. These dates have been selected so that the opportunity may be given to men who are preparing to attend the meeting of the American Medical Association in San Francisco to stop at Chicago in transit.

LOUISIANA STATE UNIVERSITY MEDICAL SCHOOL

Dr. George W. McCoy, dean of Louisiana State University Medical School, has announced that the following men have returned from military duty and are now actively engaged in teaching: Dr. Oscar Blitz, clinical assistant professor in medicine; Dr. F. A. Eigenbrod, clinical instructor in medicine; Dr. J. E. Garcia, clinical assistant professor in medicine; Dr. Hugh C. Ilgenfritz, assistant professor in surgery; Dr. C. B. Kennedy, clinical assistant professor in dermatology; Dr. Gilbert Tomskey, clinical instructor in urology; Dr. J. O. Weilbaecher, Jr., clinical assistant professor in medicine; Dr. J. C. Swartzwelder, assistant professor in public health.

Other appointments include Dr. Jacob Faust, clinical assistant in medicine; Dr. George M. Haik, associate professor and director of the department of ophthalmology; Dr. Alfred B. Longacre, clinical instructor in surgery; Dr. Emile Maltry, Jr., clinical instructor in urology; Dr. Theodore Papermaster, instructor in pediatrics; Dr. John C. Suares, clinical assistant in ophthalmology; Dr. Louis A. Toth, assistant professor in physiology; Dr. George Vickery, clinical instructor in urology; Dr. Joseph E. Warren, instructor in obstetrics and gynecology; Dr. Stephen A. Chavez, assistant in pathology, and Dr. Norman Burnstein, assistant in pathology.

TOURO INFIRMARY

A regular monthly meeting of the Medical Staff of Touro Infirmary was held on Wednesday, February 13 at 8 p.m. The following program was presented: a clinico-pathological conference by the department of pathology with a clinical discussion by Dr. Samuel Kerlin; A New Portable Plethysmograph, Dr. G. E. Burch; The Present Day Use of Contact Lenses with Demonstration, Dr. A. Braunstein.

OCHSNER CLINIC

A meeting of the Ochsner Clinic staff members and fellows was held on Friday, January 25 at 8:30 p.m. in the Reception Room of the Clinic. The program was as follows: Lymphosarcoma with Primary Manifestations in the Gastrointestinal Tract by Dr. Robert D. Moreton, radiologist at the Scott and White Clinic, Temple, Texas; Integral Medicine by Dr. Albert J. Sullivan, and Carcinoma of the Transverse Colon with Fistula into Jejunum by Dr. James R. Whitley.

A meeting of the Ochsner Clinic staff members and fellows was held on Friday, February 22 at 8:30 p.m. in the Reception Room of the Clinic. The following program was presented: Dr. Thomas Findley, Department of Medicine, spoke on Why Is the Kidney?; Dr. Guy A. Caldwell, Department of Orthopedics, talked on The Status of Lagarde Negotiations; Dr. Homer Kirgis, Fellow in Neurosurgery, spoke on Subdural Hydroma.

CHARITY HOSPITAL

A meeting of the Medical Division of the Charity Hospital Visiting Staff was held on Tuesday, February 19 at 8 p.m. in the Auditorium of the hospital. Following is the program: Dr. Grace A. Goldsmith, Case Report—Anemia Treated with L. Casei Factor; Dr. Albert Segaloff, Cases of Dwarfism.

SOUTHERN BAPTIST HOSPITAL

At the Clinical Staff Meeting on January 22 at 8 p.m., the following program was presented: Case Report—An Unusual Postpartal Complication, by Dr. R. W. Sharp with a discussion by Drs. P. H. Jones and E. H. Lawson; Intra-intestinal Complications of Amebiasis, by Dr. D. N. Silverman; Death report by Dr. Fred K. Vaughan.

DePAUL SANITARIUM

The Regular Monthly Meeting of the Medical Staff of De Paul Sanitarium was called to order at 8:10 p.m. on January 24, with Drs. Anderson, H. Colomb, A. Colomb, Thompson, Friedrichs, May, Willoughby, Hill, Beach, Holbrook, Danna, Barkoff, Connelly, Unsworth, and Dubos in attendance.

The scientific part of the program commenced with Dr. Unsworth reporting the action of dilantin in bringing about a marked improvement in the conduct of two cases who were constantly in a state of misbehavior before its use. One of the cases was presumably a schizophrenic, the other a manic, but as definite improvement was observed the possibility of epilepsy without convulsions was considered. Dr. Unsworth stressed the fact that encephalograms should be run before any definite conclusions are drawn, and stated that in the future encephalograms would be run routinely on such cases.

Dr. Thompson reported the death of Case No. 4324 (Mrs. R. H.), a white female, age 37 years, who entered the hospital in a marked state of dehydration and died within 48 hours after admission. There was a history of numerous previous similar attacks of illness during the past twelve years, during which she would refuse to eat or drink. Her temperature rose to 106.0° shortly before death with a blood pressure reading of zero. At autopsy Dr. Friedrichs reported acute inflammation of all organs. The case was discussed by Drs. Holbrook and Dubos.

Dr. Holbrook reported the death of Case No. 4242 (Miss D. N.), a white female, age 75, who had been suffering from mental depression complicated by diabetes for many years. She constantly spoke of attempting suicide and rebelled against all forms of treatment. She received eleven electroshock treatments at De Paul followed by marked improvement. She expired suddenly, six weeks following the termination of the series, apparently from coronary thrombosis. At autopsy, organic heart disease with generalized arteriosclerosis, infarcts of the lungs, chronic interstitial nephritis, and hepatic cirrhosis were found.

The Chairman called for the reading of the minutes of the previous meeting and after due motioning and seconding they were adopted as read. This was followed by reading of the reports of various departments for the year of 1945, all of which showed increases over the previous year.

Sister Anne asked that more complete information be obtained prior to the admission of patients, in order that they not be admitted in a moribund condition. She also thanked the Staff for their good work and attendance at meetings during the year 1945 and announced that she had secured the services of Dr. Hunter P. Harris as resident physician.

As Dr. Walther, one of the Staff Consultants, died during the past month, Dr. Unsworth moved "that a committee be appointed to draw up appropriate resolutions concerning his death which should be spread into the minutes", which motion was seconded by Dr. Anderson and passed.

Louis J. Dubos, M.D.,
Secretary.

LOUISIANA HOSPITALS APPROVED BY COLLEGE OF SURGEONS

The following Louisiana Hospitals have been approved by the American College of Surgeons:

Baptist Hospital, Alexandria; Baton Rouge General Hospital (provisional approval) and Our Lady of the Lake Sanitarium, Baton Rouge; Elizabeth Sullivan Memorial Hospital, Bogalusa; Haynesville Hospital, Haynesville; Parker Hospital of the East Louisiana Hospital for Insane, Jackson; Lafayette Charity Hospital, Lafayette; St. Patrick's Hospital, Lake Charles; Riverside Sanitarium, St. Francis Sanitarium and Vaughan-Wright-Bendel Clinic Hospital, all in Monroe; Charity Hospital, DePaul Sanitarium, Eye, Ear, Nose and Throat Hospital, Flint-Goodridge Hospital of Dillard University, Hotel Dieu, Illinois Central Hospital, Mercy Hospital-Soniat Memorial, New Orleans Hospital and Dispensary for Women and Children, Southern Baptist Hospital and Touro Infirmary, all in New Orleans; Fuqua Memorial Hospital of the Central Louisiana State Hospital for the Insane and Huey P. Long Charity Hospital, Pineville; Highland Sanitarium, North Louisiana Sanitarium, Shreveport Charity Hospital,

Shriners' Hospital for Crippled Children, T. E. Schumpert Memorial Sanitarium and Tri-State Hospital, all in Shreveport.

INFECTIOUS DISEASES IN LOUISIANA

There were reported in the weekly morbidity report for the State of Louisiana for the week ending January 5 the enormously large number of 6313 cases of influenza. Evidently the epidemic of influenza was statewide. Other diseases reported in numbers greater than 10 include 29 cases of pulmonary tuberculosis, 23 of mumps, 21 of unclassified pneumonia, 16 each of diphtheria and scarlet fever, 14 of chickenpox and 13 of pneumonia.

In the following week, closing January 12, the influenza epidemic was still rampant as there were 5221 cases reported in this second week of January. Other diseases included 49 cases of septic sore throat, 47 of pulmonary tuberculosis, 22 of unclassified pneumonia and of measles, 14 of malaria, as well as 10 of scarlet fever. There were also listed seven cases of typhus fever.

The influenza epidemic of early January had subsided as the number of cases reported for the week ending January 19 was only 2253. There were likewise listed 58 cases of pulmonary tuberculosis, 16 of unclassified pneumonia, 11 each of scarlet fever, diphtheria and hookworm infestation. Also reported were six cases of poliomyelitis, three of them arising in Claiborne Parish, and for the first time in many weeks a case of smallpox was discovered in Concordia Parish.

For the last week for which figures are available, namely January 26, again there was a sharp reduction in number of cases of influenza, there being 1202 reported. Pulmonary tuberculosis was found in 51 instances and 13 cases of measles were reported. No other diseases, reportable in nature, occurred in figures greater than nine. There were two cases of poliomyelitis listed this week.

HEALTH IN NEW ORLEANS

The Bureau of the Census, Department of Commerce, reported for the week ending January 12, 165 deaths in the City of New Orleans. These were divided 113 white, 52 colored and 14 were in children under one year of age. This was a reduction of 21 deaths in the city over the previous week. The weekly mortality index for January 24 shows a jump in the number of deaths, there being 174 people who died in New Orleans this week, 108 white and 66 non-white and of the total 19 were under one year of age. For the week terminating January 26 there were 31 less deaths than occurred the previous week; 99 of these were white individuals, 42 colored and only eight children under one year of age. There were 40 more deaths in the city than in the previous week, in the week ending February 2. These were apportioned 118 white, 63 non-white and 12 children under one year of age. For the week which closed February 9 the death rate was virtually static; five less deaths, three more in the white, eight less in the colored race with nine children expiring in this group.

A CORRECTION

In a recent editorial it was stated that Dr. Edwin L. Zander heads the committee which has to do with obtaining office space for returning medical officers in the City of New Orleans. This is in error as Dr. Eugene H. Countiss is chairman of this committee; Dr. Zander is chairman of the Committee on Postwar Planning of the State Society.

CHESTER ARTHUR STEWART, M. D.
1890-1946

The medical faculty of the Louisiana State University School of Medicine suffered a severe loss when their Professor of Pediatrics, Dr. Chester Arthur Stewart, died suddenly on February 8, 1946. Dr. Stewart joined the staff of the Medical School in 1941. Since that time he has been active not only in his teaching and hospital responsibilities but also in local civic activities. He took particular interest in the problems of tuberculosis, not only in children but also in adults and was largely responsible for the institution of the tuberculosis roentgen examinations at the Charity Hospital. He was a member of the American Academy of Pediatrics as well as the Orleans Parish Medical Society and the Louisiana State Medical Society. Dr. Stewart was a man of force and vigor. Combining these attributes with a pleasant and agreeable personality, he soon became recognized as one of the outstanding pediatricians in the South. It is with the deepest regret that we record the death of this outstanding character.

LIONEL JOSEPH BIENVENU
1897-1946

One of the loyal members of the Louisiana State Medical Society, Dr. Lionel Joseph Bienvenu, died on the eighth of February. Dr. Bienvenu practiced medicine in Opelousas after his graduation from Tulane in 1921. He was a member of the State Society from 1923 until the time of his death.

RUFUS JACKSON
1883-1946

Dr. Rufus Jackson, a member of the East Baton Rouge Parish Medical Society was accidentally killed on February 20 in a tractor accident according to a newspaper account. Dr. Jackson was one of the prominent physicians of Baton Rouge, not only as a physician but as a civic leader. He was also an active member of the State Society.

WOMAN'S AUXILIARY

Mrs. Paul Lacroix, President of the Woman's Auxiliary of the Louisiana State Medical Society, was entertained at the home of Mrs. Alfred D. Long, Steele Boulevard, Baton Rouge. Mrs. Long, the hostess, was assisted at the tea table by Mrs. Lester Williams and Mrs. Rhett McMahon, whose husband is president-elect of the State Society. Other ladies assisting Mrs. Long were Mrs. J. W. McGehee, Mrs. B. B. Lane, Mrs. D. W. Landess, Mrs. Cecil O. Lorio, Mrs. A. W. Martin, and Mrs. Frank J. Jones. Mrs. Lacroix was accompanied to Baton Rouge by Mrs. Donovan C. Browne, Mrs. John S. Dunn, Mrs. C. Grenes Cole, Mrs. Daniel J. Murphy, Mrs. J. Kelly Stone, Mrs. Roy B. Harrison, Mrs. Carroll Gelbke and Mrs. Cassius Peacock, all of New Orleans. These ladies were special guests at a luncheon at the Heidelberg Hotel where Mrs. R. R. Rabalais was hostess.

FROM THE AUXILIARY PRESIDENT TO HER MEMBERS

I will begin my letter to you with an invitation. On May 6, 7 and 8, the Louisiana State Medical Society and the Woman's Auxiliary to the Louisiana State Medical Society will hold at State Convention in Alexandria.

It would indeed be nice to see each of you and extend to you a personal invitation; since I cannot, will you please consider this one? We want you to take part in the meeting and enjoy it with us; we want you to come so that we can all really know each other, and all plan together for a larger and even more active auxiliary in the future. I hope to see you there.

Since my last chat with you I have visited with the Baton Rouge Auxiliary. What a delightful visit. Eight members of the Board accompanied me to the meeting which was held at the home of Mrs. Arthur Long, our State President-elect. It was a well attended informal meeting with everyone joining in the general discussion of how we, as auxiliary members, could best help our doctors combat our government's proposed compulsory health insurance bill. The ladies of the Baton Rouge Auxiliary voted to take charge of the March-of-Dimes collection for Infantile Paralysis sufferers in the motion picture theatres, the following week. After the meeting we had luncheon and a most enjoyable time.

At the meeting of the Orleans Parish Auxiliary in February Mrs. Carroll Gelbke, President, recommended that the April meeting be advanced one week, to enable the doctors' wives, who will be visiting in New Orleans for the Graduate Medical Assembly, to attend their monthly meeting and tea. Mrs. Eberhard Duetsch gave a splendid dramatic reading of "The Glass Menagerie", following the business meeting and later, tea was served.

I have called an Executive Board meeting for February 27 and am looking forward with much pleasure to the inspiration and helpful suggestions which are sure to come out of this meeting.

Mrs. W. W. Potter, President of the Woman's Auxiliary to the Southern Medical Association has informed me of their decision to use the Jane Todd Crawford Memorial Fund as a loan Fund to a Southern medical student, graduate or physician to study postgraduate work in gynecology at a Southern medical school. This decision to use the Fund for the benefit of the living should result in more generous support of this project.

On March 30 we are privileged to do honor to our doctors, it will be Doctors' Day. We, who as wives, have shared the burdens and anxiety of these quiet self-sacrificing men and realize, as few others do, their earnest humble effort to be of service to their fellow men, and ask that on this day they be given the tribute of "Well Done".

In the Quarterly Bulletin of the Missouri Woman's Auxiliary Mrs. D. W. Thomas, our National President, quotes from Florence Fisher Parry of Pittsburgh, the following tribute to the doctor: "Nothing can take his place — not priest nor minister, nor all the clinics that science can provide. There is a rapport between him and his patient which has been able to accomplish miracles and to restore to the breasts of mothers babies about to die; and to the arms of lovers, beloved turned back from death. For there's something about the Family Doctor that casts out fear, melts apprehension, breaks down suspense, performs the miracle of Faith.

"We know how hard the life he has chosen. We know that he's abused, imposed upon and worn. His days are not his own and his nights are snatched and torn, what compensation is his? Oh, I think he is greatly repaid; greatly to be envied. His rewards are kingly prizes.

"The prize is 'Welcome'. That's a great reward. To have one's presence a blessing. To know that the mere sight of you brings hearts' ease; stirs the wan pulse, brightens the fading eye.

"The prize of 'Conquest'. All men like that. Winning against odds. To stay a fever; energize a pulse; throw breastworks against the advance of disease. Here, indeed, are paths of glory that do not lead to the grave but far from it. I cannot think of greater conquest.

"The prize of 'Confidence'. That's a proud possession. Some priests know it; some ministers and friends, if they're time tried. But the Family Doctor is the final confessional, a refuge not only for repentant hearts but sick and craven hearts as well.

"The prize of 'Human Wisdom'. That deep knowledge that comes from being continually exposed to the pitiful frailties of mankind. You do not deceive the Family Doctor; you do not attempt to. But knowing you he is still compassion-

ate; for he has learned to expect little greatness in his fellowman.

"Above all, I think I envy him his prize of 'selflessness'. He is free for he has already given up his life, so has nothing left to fetter him.

"There is much talk of state control of medicine; and legislation dips its partial fingers into the sterile waters of our doctors seeking to arbitrate over their fields of mercy. I dare say there are certain restricted fields of medicine in whose confines the legislative hand could work productively. But the ineffable value of the human touch in medicine, that transcends all legislation. What legislation indeed, what politics, what state control or organized social program can hope to substitute that Human Bond that exists between the Family Doctor and his patient?"

Mrs. Paul G. Lacroix.
Press & Publicity Chairman.
Mrs. Roy Carl Young.

BOOK REVIEWS

Doctors at War: By Morris Fishbein, M. D. New York, E. P. Dutton and Company, 1945. Illus. Price $5.00.

Covering every phase of medical warfare, Doctors at War tells, for the first time, the splendid and creative story of American doctors in action in World War II and out of their wartime medical research have come vital discoveries which will greatly benefit mankind in the postwar years.

Major-General Norman T. Kirk, Surgeon General of the Army says "Had this war been fought under the medical conditions that prevailed in 1918, good as they were for their period, 60,000 wounded soldiers would not be alive today; 9,000 men who would have been crippled for life would not have been restored to complete health; the Army's death rate from disease would be twenty times higher than it is, and the incidence of malaria in mosquito-infested regions would not have been reduced by 75 percent."

Written for the layman, as well as the doctor, Doctors at War occupies a unique place in the medical records of this war. Dr. Fishbein has done an excellent job of editing and the sixteen leading authorities responsible for organizing our medical warfare give stirring accounts of what each branch has accomplished. These narratives provide adequate proof that the nation's doctors served nobly in every capacity to which they were called.

Presented in the volume are 82 photographs, plus charts and diagrams and an index.

C. P. May, M. D.

A Primer of Electrocardiography: By George Burch, M. D., and Travis Winsor, M. D. Philadelphia, Lea & Febiger, 1945. pp. 215. Price $3.50.

This small book of five chapters of one hundred and ninety pages with eight pages of appendix is written to give the student a more comprehensive view of the fundamental principles of the electrocardiogram. In the past there has been too much reliance placed on the pictorial view. The student was expected to remember that electrocardiograms of certain forms were associated with certain clinical diagnoses without knowing why.

By good drawings and explanations in the text the spread of the impulse through the heart is so described that the student can visualize what is going on and why certain changes in the electrocardiogram occur when certain conditions in the myocardium are present and also the importance of the position of the heart in the body. Enough is said about the monocardiogram or vectorcardiogram or the QRS loop to give one an idea of what is meant by these terms. Three pages are devoted to description of the ventricular gradient.

One might say that nothing is found to justify an adverse criticism of this book. There are a few minor things that probably could have been stated in a little different way to some advantage. The reviewer has no hesitation in recommending this book to those who are interested in electrocardiography.

J. M. Bamber, M. D.

The Psychology of Women: By Helene Deutsch, M. D. Vol. II: Motherhood. Grune & Stratton, 1945. pp. 498. Price $5.00.

The first volume, which dealt with the development of feminine personality characteristics is now continued in the second and final volume entitled "Motherhood." There is a short discussion of woman's present social position and the effect of the social factors on motherhood, but almost all of the emphasis in this book is put on the psychological forces within the individual woman and deals with the different feminine types and the reactions of each type to motherhood.

The childhood idea of having a baby is to have a possession, in the early infantile period to gain the possession actively as the mother, in the oedipus period to gain the child passively as a gift from the father. The second is the prototype of the passive feminine mother, and the first is the prototype of the active aggressive or matriarchial mother.

The sexual act in woman is actually a double activity made up first of coitus or incorporation, and second childbirth or elimination. Coitus in a woman is not a demand for a discharge of tension

but is a demand for erotic pleasure. The woman's tensions at the onset of coitus produce a contraction of the vagina, inducing the man to make the aggressive assult, following which the woman's activity is entirely in response to the man's activity, is with and not against the man.

Sterility may occur when a woman's activity is aggressive or expulsive and can occur because of psychological conflicts producing fear of childbirth. Even during coitus there is consciously or unconsciously the fear of dying in childbirth. The fear of dying in childbirth is based on the age-old sense of guilt which comes from many sources. One source is the unconscious idea "I cannot have a child" from the girl's unconscious fear that she has destroyed her genitals. Sterility also occurs in some very motherly women who project their maternal instinct onto their husband's and feel a need to protect their husbands from the duties of fatherhood.

During pregnancy, in almost every woman, can be found a tendency to interrupt the harmony of the pregnancy state; particularly in the masochistic woman is this true because of the woman's fear that the fetus is living parasitically and is exploiting the mother.

Guilt feelings about pregnancy are closely tied up with woman's relationship to her own mother, dating back to the childhood phase when the greatest burden of the little girl's emotional life was the rivalry with the mother. It is interesting that many neurotic women are more free from their neuroses during pregnancy because they are brought from fantasy into reality. Also, there is a real narcissistic gain in bearing a child which can be valuable quite apart from the motherliness as such.

There is considerable discussion about abortions and excessive guilt reactions therefrom. It is interesting how a father's willingness to have the mother undergo an abortion is strongly resented unconsciously by the mother, causing the woman to turn against her husband.

There is a very good chapter on deliveries. The author emphasizes the fear of childbirth more than the pain. Throughout the history of all cultures the fear of dying in childbirth is present. Immediately before delivery even very mature women are transformed into a child, with preoccupation about the mysteries of childbirth, the fear of losing the child, and another important fear, "the child is losing me." One defense against this fear is an increased activity immediately before and during delivery. Also the woman's activity is demanded by the feeling that she must participate. The over-passive woman is apt to have difficulty at this point and she may become panicky or react with rage because of her own helplessness. Doctor Deutsch states that the woman wants to fight the birth pains largely with her own resistance, and the willingness to submit to anesthesia is not always an expression of intolerance of pain but rather an escape from unbearable fear. Narcosis is apt to give the mother the feeling that she has accomplished nothing and often gives rise to the unexpressed thought, "is this my child?" Throughout delivery and confinement, the author feels that the mother should have her own mother or older women present, since the confinement situation has always been woman's domain.

In the mother-child relationship each member develops a gift of observation into each other's conscious or unconscious impulses. If the mother strives too much to achieve the identification with the child, she can encourage the child to imitate other models instead of the mother, which becomes an actual loss for the child. The child is very sensitive to the mother's inner untruthfulness. The mother must learn that the child's relationship to her is only a temporary stage in his existence which he must transcend. The mother who uses the approach to her child, "Will you abandon me who has suffered so much?" will probably be refused and become an embittered mother.

In the discussion on unmarried mothers the author has found that the illegitimate child should not be taken away without the mother being allowed to see, know, and raise the child for a period of time before separation. Such may be painful, but it is less deeply traumatic than the frustration of immediately removing the child.

In the pre-climacteric there is a strong urge to re-experience motherhood and also to renew old interests and develop old or new creative abilities. The menopause is likened by the author to puberty. There may be seen a renewing of the infantile state in respect to the father and mother. It is the "dangerous age" in which she behaves like a young girl, brags about her personality, makes friends with dubious individuals; jealousy appears, paranoid ideas resulting from latent homosexuality are seen. Even changes in skin and thyroid occur, which are similar to changes occurring in puberty. This resurgence of creative and sexual activity may last for many years long after the physiological menopause.

In summary, this book is full of detailed, valuable information, and together with the first volume clarifies the specific feminine psychology.

WALKER THOMPSON, M. D.

Stitt's Diagnosis, Prevention and Treatment of Tropical Diseases: By Richard P. Strong, M. D., Sc. D., D. S. M., C. B., 7th ed. Philadelphia, The Blakiston Co. 1944. 2 v. illus. Price $21.00.

This foremost work on tropical medicine in English appeared in two volume form as a sixth edition in 1942. It went through three printings in 1943. A seventh edition was issued in 1944 and

was reprinted again in 1945. The present printing is available in both two volume and as a single large volume. Additional praise is superfluous in view of the above facts.

Although apparently little change can be noted in the 1747 pages, adroit insertion of a and b numbers has accommodated 104 corrections, alterations and additions. These latter include some 15 of one or several paragraphs and there are very numerous additions to the references in the different sections. A considerable amount of information derived from the vast experience of the armed forces is included although perhaps not as much as might have been expected, had hostilities ceased at the time of publication.

Some of the diseases given addition treatment are malaria, bacillary dysentery, plague, the rickettsial diseases, Oroya fever, climatic bubo and filariasis.

Although workers in special fields may not agree with all aspects of this work, it remains the finest reference work on the subject.

It is also to be hoped that at a not too distant date another edition, including the results of the experiences of the medical corps in all the diverse theatres of war, will be forthcoming.

A. J. WALKER, M. D.

Mitchell-Nelson Textbook of Pediatrics: Edited by Waldo E. Nelson, M. D., Philadelphia, W. B. Saunders Co., 1945, Pp. 1350. Price $10.00.

Dr. Waldo Nelson, Professor of Pediatrics at Temple University School of Medicine, together with forty-nine outstanding contributors, has made many improvements in this ever-popular textbook of pediatrics. The fourth edition certainly fulfills all expectations for excellence which preceded its appearance.

Changes in the size and type of the book and in page and section organization are all gratifying. Lucid practical explanations of specific, supportive and symptomatic treatment plans are particularly attractive. A new, well-chosen, and well organized bibliography is included for each subject; this had been omitted from the third edition, and its return will be most welcome to all. The illustrations are excellent; photographs and x-ray reproductions are very clear. Many useful charts and graphs are suitably interposed throughout the book. The inclusion of a chapter dealing with specific problems of the adolescent child certainly meets a real need, though such a praiseworthy addition probably should be amplified and have a more prominent place than it does in the present volume.

Although it is always difficult to judge the excellence of indexing in any volume before using it for several months, this one seems unusually complete. A short appendix contains tables of normal blood values, nutritional requirements, conversion factors and references to data similarly presented in the text. Dr. Nelson certainly deserves the hearty congratulations of all physicians interested in children for the preparation of such a masterful volume.

Certainly, as the editor states in his preface, "the book has been completely rewritten and to all intents and purposes it is a 'new' book"; the reviewer has no hesitancy in recommending this text to students and practitioners alike.

R. V. PLATOU, M. D.

The Care of the Neurosurgical Patient: By Ernest Sachs, A. B., M. D., St. Louis, The C. V. Mosby Co., 1945, Pp. 268, 177 Illustrations. Price $6.00.

In this small volume Sachs has admirably achieved his purpose of describing "the details necessary for the adequate care of the neurosurgical patient." Based on information accumulated through years of experience, an abundance of material unfolds in an orderly fashion from the first chapter on the preoperative examination to the last one on a review of neurological surgery and a glimpse into its future. Sandwiched between these are discussions of the operating room, anesthesia, neurosurgical methods, typical neurosurgical operations and postoperative care. Sprinkled uniformly throughout the text is a profusion of illustrations, which serves to reiterate its contents. Not only will this book prove instructive to all surgical house officers but it will undoubtedly find its rightful place on the bookshelf of all neurosurgeons.

DEAN H. ECHOLS, M. D.

PUBLICATIONS RECEIVED

The MacMillan Company, New York: Preventive Medicine and Public Health, by Wilson G. Smillie, A. B., M. D., D. P. H., Sc. D. (hon.).

C. V. Mosby Company, St. Louis: The Care of the Aged (Geriatrics), by Malford W. Thewlis, M. D.

W. B. Saunders Company, Philadelphia: Howell's Textbook of Physiology, by John F. Fulton, M. D. Principles of Dynamic Psychiatry, by Jules H. Masserman, M. D.